Com'X 200
User Guide

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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Table of Contents

Safety Information 5
About the Book 9
Chapter 1 Introduction 11
Introduction 11
Chapter 2 Access to the Com'X 200 User Interface 15
Supported Web Browsers for PC 16
Recommended Web Browsers for Tablet PC 17
Access Through the Ethernet Port 18
Access Through Wi-Fi Access Point Mode 19
Chapter 3 Login Page 21
Login Page 21
Chapter 4 Com'X 200 User Interface Overview 23
User Interface Layout 24
Com'X 200 User Interface Description 26
Chapter 5 Quick Start Guide to Publish Data to Energy Operation 27
Quick Start Guide Overview 28
Define the General Settings 30
Define the Communication Settings to Publish the Data 31
Define the Metering Devices 33
Visualize the Data to Log and Publish 37
Publish the Data to Energy Operation 38
Chapter 6 General Settings 39
Site Information 40
Date and Time Settings 41
Data Logging 42
Publication 43
Chapter 7 Communication Settings 49
7.1 Modbus Serial Port 50
Common Modbus Serial Port Settings 51
Com'X 200 Modbus Serial Port Settings 52
7.2 Network Settings 53
Network Configuration Options 54
Ethernet Port Settings 55
GPRS Settings 58
7.3 Proxy Settings 60
Proxy Settings 60
7.4 Wi-Fi Access Point Settings 62
Wi-Fi Access Point Settings 62
7.5 Gateway Access 63
Gateway Access 63
Chapter 8 Device Settings 65
8.1 General Overview 66
Overview 67
Managing Devices 69
Measurement and Metadata Exported Per Hosted Platform 71
Common Properties 72
8.2 Devices that Can Connect to Digital Inputs 76
Built-in Pulse Meters 77
Custom Pulse Meters 78

8.3 Devices that Can Connect to Analog Inputs . . . 79
Built-in Resistance Temperature Detectors . . . 80
Custom Analog Devices . . . 81
8.4 Modbus Devices . . . 82
Modbus Discovery Function . . . 83
Adding a Modbus Device Manually . . . 85
Modbus Meter Measurements . . . 86
Acti 9 Smartlink . . . 87
Smart Interface Module . . . 88
8.5 Ethernet Devices . . . 89
Built-in Ethernet Devices . . . 90
Custom Ethernet Devices . . . 91
Chapter 9 Measurements Table . . . 93
Measurements Table . . . 93
Chapter 10 Commissioning . . . 95
Commissioning . . . 95
Chapter 11 Custom Library . . . 97
Creating a Custom Model . . . 98
Creating a Custom Modbus Device . . . 99
Creating a Custom Main Meter Model . . . 103
Creating a Custom Pulse Meter Model . . . 107
Creating a Custom KYZ Pulse Meter Model . . . 109
Creating a Custom Contactor or Impulse Relay . . . 110
Creating a Custom Analog Sensor Model . . . 111
Working with Custom Models . . . 113
Chapter 12 Maintenance . . . 115
Logs . . . 116
System Settings . . . 117
Firmware Upgrade . . . 118
Save the Configuration . . . 120
Upload A Duplicate Configuration File from Another Com'X 200 . . . 122
Com'X 200 Replacement . . . 123
Restore the Configuration . . . 124
Reset . . . 125
Chapter 13 Checklist Before Leaving Customer Site . . . 127
Checklist Before Leaving Customer Site . . . 127
Chapter 14 Troubleshooting . . . 129
Metering Device Troubleshooting . . . 130
Modbus Device Troubleshooting . . . 131
Network Troubleshooting . . . 132
Com'X 200 Troubleshooting . . . 133
Appendices . . . 135
Appendix A Useful Information . . . 137
Useful Information to Write Down . . . 137
Appendix B Listing . . . 139
List of Supported Devices . . . 140
List of Certificate Authorities . . . 141
Appendix C IPv4 Address Settings . . . 145
IPv4 Address Settings . . . 145
Glossary . . . 147
Index . . . 151

Safety Information

Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a Danger safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

BEFORE YOU BEGIN

Do not use this product on machinery lacking effective point-of-operation guarding. Lack of effective point-of-operation guarding on a machine can result in serious injury to the operator of that machine.

⚠ WARNING

UNGUARDED MACHINERY CAN CAUSE SERIOUS INJURY

- Do not use this software and related automation equipment on equipment which does not have point-of-operation protection.
- Do not reach into machinery during operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

This automation equipment and related software is used to control a variety of industrial processes. The type or model of automation equipment suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications, more than one processor may be required, as when backup redundancy is needed.

Only the user can be aware of all the conditions and factors present during setup, operation, and maintenance of the machine; therefore, only the user can determine the automation equipment and the related safeties and interlocks which can be properly used. When selecting automation and control equipment and related software for a particular application, the user should refer to the applicable local and national standards and regulations. The National Safety Council's Accident Prevention Manual (nationally recognized in the United States of America) also provides much useful information.

In some applications, such as packaging machinery, additional operator protection such as point-of-operation guarding must be provided. This is necessary if the operator's hands and other parts of the body are free to enter the pinch points or other hazardous areas and serious injury can occur. Software products alone cannot protect an operator from injury. For this reason the software cannot be substituted for or take the place of point-of-operation protection.

Ensure that appropriate safeties and mechanical/electrical interlocks related to point-of-operation protection have been installed and are operational before placing the equipment into service. All interlocks and safeties related to point-of-operation protection must be coordinated with the related automation equipment and software programming.

NOTE: Coordination of safeties and mechanical/electrical interlocks for point-of-operation protection is outside the scope of the Function Block Library, System User Guide, or other implementation referenced in this documentation.

START-UP AND TEST

Before using electrical control and automation equipment for regular operation after installation, the system should be given a start-up test by qualified personnel to verify correct operation of the equipment. It is important that arrangements for such a check be made and that enough time is allowed to perform complete and satisfactory testing.

⚠ CAUTION

EQUIPMENT OPERATION HAZARD

- Verify that all installation and set up procedures have been completed.
- Before operational tests are performed, remove all blocks or other temporary holding means used for shipment from all component devices.
- Remove tools, meters, and debris from equipment.

Failure to follow these instructions can result in injury or equipment damage.

Follow all start-up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and grounds that are not installed according to local regulations (according to the National Electrical Code in the U.S.A, for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment enclosure door.
- Remove all temporary grounds from incoming power lines.
- Perform all start-up tests recommended by the manufacturer.

OPERATION AND ADJUSTMENTS

The following precautions are from the NEMA Standards Publication ICS 7.1-1995 (English version prevails):

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
- It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
- Only those operational adjustments actually required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

About the Book

At a Glance

Document Scope

This guide is intended for system integrators or electrical contractors to set up and operate a Data Acquisition System (DAS) with the Com'X 200. The Com'X 200 is used as a data logger that publishes periodically data to a hosted platform.

This document does not provide information on how to design a DAS nor to install and wire an energy server Com'X 200 and the metering devices. For further information, refer to the following guidelines:

- *Designing a Data Acquisition System with an Energy Server Com'X 200*.
- *Com'X 200 Metering and Data Acquisition System, Installation Guide*.

Validity Note

This user manual applies to the energy server Com'X 200 device.

The energy server Com'X 200 is a compact plug and play data logger. It collects and stores consumptions of WAGES (Water, Air, Gas, Electricity, and Steam) and environmental parameters such as temperature, humidity, and CO_2 levels in a building. Data is securely transmitted as a report to **StruxureWare Energy Operation** or any other Internet database server.

Related Documents

Title of Documentation	Reference Number
Com'X 200 Metering and Data Acquisition System, Installation Guide Chinese, English, French, Italian, Spanish	DOCA0035ZH, DOCA0035EN, DOCA0035FR, DOCA0035IT, DOCA0035ES
Smart Interface Module, Instruction Sheet English, French, Italian, Spanish	ISSIM10Z10M6BZ
Smart Interface Module, Installation Guide	DOCA0025EN (EN)
Acti 9 Smartlink Communication System, User Manual	DOCA0004EN (EN)
Com'X 200 Instruction Sheet	253534170
EBXA-GPRS/EBXA-GPRS-SIM Instruction Sheet	253537613
EBXA-WIFI Instruction Sheet	253537634

You can download these technical publications and other technical information from our website at www.schneider-electric.com.

Chapter 1
Introduction

Introduction

Presentation

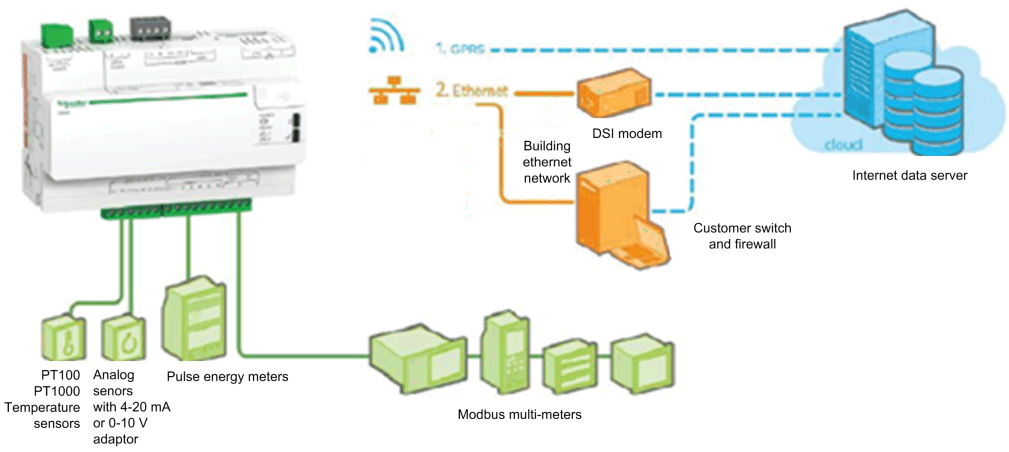
The Com'X 200 energy server is a compact plug and play data logger. It collects and stores consumptions of WAGES (Water, Air, Gas, Electricity, and Steam) and environmental parameters such as temperature, humidity, and CO_2 levels in a building. Data is securely transmitted as a report to an Internet database server.

Data is ready to be processed once received by the server. Data is displayed as web pages through energy management services provided by Schneider Electric such as **StruxureWare Energy Operation** and **StruxureWare Energy Online** to support optimization of energy performance and cost management.

The Com'X 200 also provides a transparent interface between Ethernet-based networks and field devices. This gateway function supports the use of monitoring software to access information from devices for data collection, trending, event management, analysis, and other functions.

Architecture

This graphic shows the architecture of the Com'X 200:



From a simple metering installation with 1 device to large metering systems, the Com'X 200 collects data from any Modbus TCP/Modbus serial line gateways, pulse meters, actuators, and analog sensors.

Main Features

The main features of the Com'X 200 are:

- automatic discovery of connected Modbus devices
- connectivity to the cloud through 2 media: GPRS or Ethernet
- 2 Ethernet ports to separate upstream cloud connection from field device network
- 4 supported transfer protocols: HTTP, HTTPS, FTP, and SMTP with proxy management
- data export with native connection to Schneider Electric service platforms (**Energy Operation** and **Energy Online**) and with *.csv* file for other database servers
- gateway functionality Modbus TCP to Modbus RTU
- setup through convenient built-in web pages
- compliant with electrical switchboard environment (temperature, electromagnetic compatibility)
- data storage in case of upstream communication interruption
- local backup of configuration parameters

Schneider Electric Remote Service Platform

The energy server Com'X 200 can be associated with Schneider Electric **Remote Service Platform**. This platform enables you to:

- remotely manage firmware upgrade, configuration backup on the cloud, troubleshooting, and parameter settings.
- manage worldwide GPRS contract with provision of the SIM card.

Schneider Electric Energy Management Services

Schneider Electric energy management services are **StruxureWare Energy Operation** and **StruxureWare Energy Online**.

This graphic shows the interface of **Energy Operation** platform:

This graphic shows the interface of **Energy Online** platform:

Energy Operation and **Energy Online** are data visualization and analysis applications that aggregate volumes of raw energy data into actionable information. This cloud-based software as a service (SaaS) model allows you to reduce solution cost and increase data storage capacity.

It is a flexible and mobile energy solution enhanced by Schneider Electric expert services. Highly intuitive and easy to use, **Energy Operation** and **Energy Online** integrate any incoming energy data and present it to suit any user.

Energy Operation and **Energy Online** allow you to:
- transform operations,
- normalize and aggregate data for executives,
- create reports for energy managers that combine data from multiple sources,
- present energy data in your lobby kiosk to share your good energy news with customers or employees.

The selection of **Energy Operation** and **Energy Online** depends on your need and your country. Contact your Schneider Electric representative to identify which one suits you.

Chapter 2
Access to the Com'X 200 User Interface

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Supported Web Browsers for PC	16
Recommended Web Browsers for Tablet PC	17
Access Through the Ethernet Port	18
Access Through Wi-Fi Access Point Mode	19

Supported Web Browsers for PC

With Windows XP

Browser	Browser Version
Internet Explorer	IE8.0
Firefox	20.0
Chrome	24.0 to 26.0

With Windows Vista

Browser	Browser Version
Internet Explorer	IE9.0
Firefox	20.0
Chrome	24.0 to 26.0

With Windows 7

Browser	Browser Version
Internet Explorer	IE10
Firefox	20.0
Chrome	24.0 to 26.0

Recommended Web Browsers for PC

- Chrome

Recommended Web Browsers for Tablet PC

Recommended Web Browsers

The following web browsers are recommended for tablets:

For Windows 8:
- Internet Explorer
- Firefox

For iOS:
- Chrome
- Safari

For Android:
- Chrome

Access Through the Ethernet Port

With Windows 7/Vista

Follow this procedure to access the Com'X 200 user interface:

Step	Action
1	Disconnect your local computer from all networks.
2	Connect an Ethernet cable from your local computer to the Ethernet port 2 of the Com'X 200.
3	Open **Windows Explorer** on your local computer and click **Network**. The Com'X 200 appears in the list of devices. Refer to troubleshooting *(see page 129)* if the Com'X 200 does not appear.
4	Double-click the Com'X 200. The login page is opened automatically on your default web browser. **NOTE:** HTTPS is enabled by default on the Com'X 200 configuration. The Com'X 200 has an autosigned security certificate. Therefore, connecting to the Com'X 200 interface displays a security message. Before accepting, confirm that communication with the Com'X 200 has been established.
5	Type the username (factory setting: admin) and the password (factory setting: admin). **NOTE:** The username and password are case-sensitive.
6	Click **Ok**.

With Windows XP or Other Operating Systems

Follow this procedure to access the Com'X 200 user interface:

Step	Action
1	Disconnect your local computer from all networks.
2	Connect an Ethernet cable from your local computer to the Ethernet port 2 of the Com'X 200.
3	Open your web browser.
4	Type **[10.25.1.1]** in the address field and press **Enter**. **NOTE:** HTTPS is enabled by default on the Com'X 200 configuration. The Com'X 200 has an autosigned security certificate. Therefore, connecting to the Com'X 200 interface displays a security message. Before accepting, confirm that communication with the Com'X 200 has been established.
5	Type the username (factory setting: admin) and the password (factory setting: admin). **NOTE:** The username and password are case-sensitive.
6	Click **Ok**.

Access Through Wi-Fi Access Point Mode

NOTICE
UNAUTHORIZED ACCESS Do not disable HTTPS redirection if there is sensitive or private information on your local network. **Failure to follow these instructions can result in equipment damage.**

With Windows 7/Vista

Follow this procedure to access the Com'X 200 user interface:

Step	Action
1	Connect the Wi-Fi USB key on the Com'X 200 front panel.
2	Press the Wi-Fi button on the Com'X 200. The Wi-Fi button LED flashes green.
3	On your local computer, connect to the Com'X 200 wireless network using the **Windows Wireless Network configuration** window.
4	Open **Windows Explorer** on your local computer and click **Network**. The Com'X 200 appears in the list of devices. Refer to troubleshooting *(see page 129)* if the Com'X 200 does not appear.
5	Double-click the Com'X 200 and the login page opens automatically in your default browser. **NOTE:** HTTPS is enabled by default on the Com'X 200 configuration. The Com'X 200 does not have a security certificate. Therefore, connecting to the Com'X 200 interface displays a security warning. To avoid this warning, you can deactivate the HTTPS redirection in the communication settings *(see page 60)*.
6	Type the username (factory setting: admin) and the password (factory setting: admin). **NOTE:** The username and password are case-sensitive.
7	Click **Ok**.

With Windows XP or Other Operating Systems

Follow this procedure to access the Com'X 200 user interface:

Step	Action
1	Connect the Wi-Fi USB key on the Com'X 200 front panel.
2	Press the Wi-Fi button on the Com'X 200. The Wi-Fi button LED flashes green.
3	On your local computer, connect to the Com'X 200 wireless network using the **Windows Wireless Network configuration** window.
4	Open your browser.
5	Type **[10.25.2.1]** in the address field and press **Enter**. **NOTE:** HTTPS is enabled by default on the Com'X 200 configuration. The Com'X 200 does not have a security certificate. Therefore, connecting to the Com'X 200 interface displays a security warning. To avoid this warning, you can deactivate the HTTPS redirection in the communication settings *(see page 60)*.
6	Type the username (factory setting: admin) and the password (factory setting: admin). **NOTE:** The username and password are case-sensitive.
7	Click **Ok**.

Chapter 3
Login Page

Login Page

Logging In

Follow these instructions to log in to the user interface:

Step	Action
1	Select your language.
2	Type the username and the password. **NOTE:** The username and password are case-sensitive.
3	Click **Connect** to be logged in to the configuration web page.

NOTE: Because the certificate used by HTTPS is autosigned by Schneider-Electric, and is not dedicated to your network, the browser may display a security message. You can close the message and proceed with login.

First Time Logging In

The web server is a tool for reading and writing data. It controls the state of the system, with full access to all data in your application. You will be prompted to change your password the first time you log in to prevent unauthorized access to the application.

NOTICE
UNAUTHORIZED DATA ACCESS ● Immediately change the default password to a new, secure password. ● Do not distribute the password to unauthorized or otherwise unqualified personnel. **Failure to follow these instructions can result in equipment damage.**

NOTE: A secure password should not be shared or distributed to unauthorized personnel. The password should not contain any personal or obvious information.

Follow these instructions to log in to the user interface for the first time:

Step	Action
1	Log in using the default password.
2	Read the **License Agreement** completely. **NOTE:** The **Accept** button will remain grayed until you scroll to the bottom of the User License Agreement.
3	Accept the **License Agreement**.
4	Enter a new password. It must contain: ● 8 characters ● 1 letter in upper-case ● 1 numeric digit ● 1 special character

Changing the Password

Follow these instructions to change the password after the first login:

Step	Action
1	Navigate to the admin link.
2	Enter the current password.
3	Enter a new password.
4	Confirm the new password.
5	Click **Ok**.

User Login Session Timeout

The login session terminates after 2 hours of inactivity.

Multiple Session Management

If multiple sessions are opened, only the first session can be used to edit parameters. Sessions opened after the first session are read-only.

Chapter 4
Com’X 200 User Interface Overview

What Is in This Chapter?

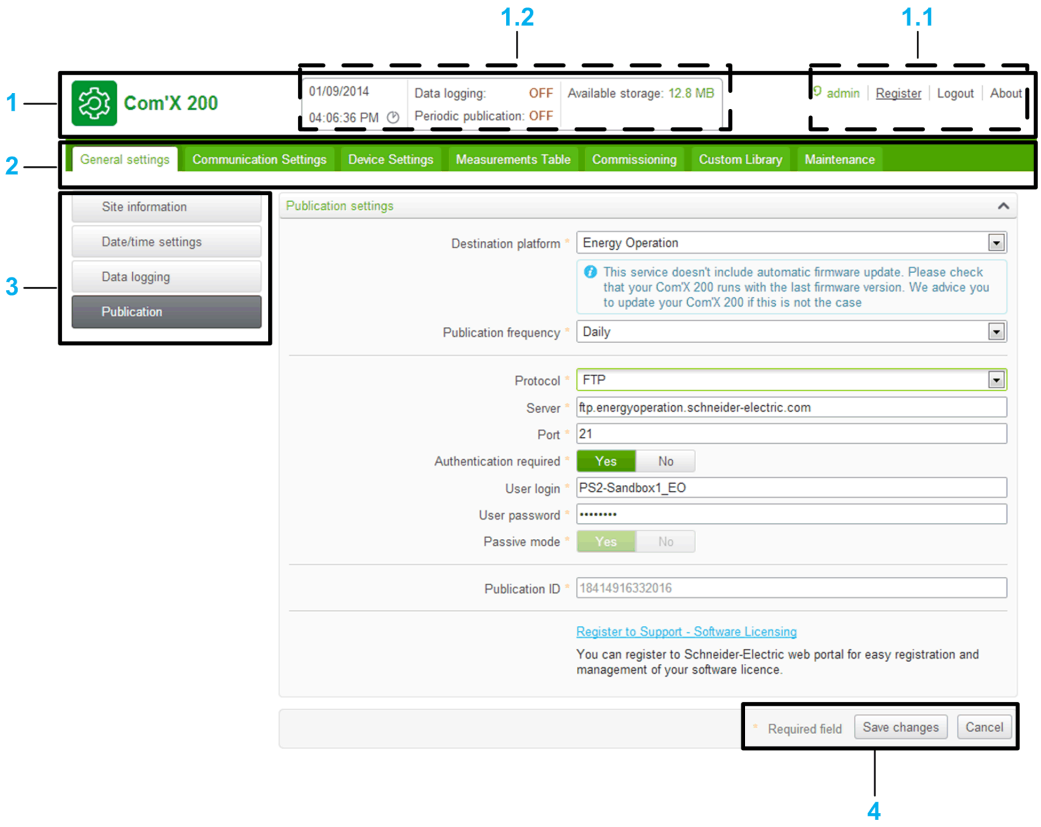
This chapter contains the following topics:

Topic	Page
User Interface Layout	24
Com’X 200 User Interface Description	26

User Interface Layout

Overview

This graphic shows the interface layout:



1	Banner
	1.1 Generic information
	1.2 General status
2	Main tabs
3	Subtabs
4	Action buttons

Banner

The banner displays the following information at the top of all pages:

Generic information	**Admin**: Username connected.
	About: Click to access information on your Com'X 200 and GPRS modem identifications (serial number and MAC address), IPv4 Ethernet ports, IPv6 address, and software versions.
	Logout: To log out of the Com'X 200 session, click **Logout** or close your browser. It is recommended to log out from the Com'X 200 when not in use.
	Time: Displays the time as set in the **Date/time settings** subtab *(see page 41)* from the **General settings** main tab.
General status	**Data Logging**: Status of data logging can be activated in the **Commissioning** tab.
	Periodic Publication: Status of periodic publication can be activated in the **Commissioning** tab.
	Available Storage: Shows available storage for data logging.

Main Tabs

The main tabs are:

- **General settings**
- **Communication Settings**
- **Device Settings**
- **Measurements Table**
- **Commissioning**
- **Custom Library**
- **Maintenance**

This icon indicates that the information necessary to complete the Com'X 200 configuration and activation of data logging and publication is unavailable for the tab.

NOTE: Fields marked with a red star (*) are required fields.

Subtabs

The subtabs display the submenus under the selected main tab.

This icon indicates that the information necessary to complete the Com'X 200 configuration and activation of data logging and publication is unavailable for the tab.

NOTE: You can bookmark each subtab of the Com'X 200 web interface.

Action Buttons

The action buttons correspond to the selected tab and vary.

This table describes the interface buttons:

Button	Action
Save changes	Validates the modifications. Disabled when: ● there is no change in the web page. ● mandatory fields are left blank. Those fields are highlighted in red. ● inappropriate characters are entered in a field. This field is highlighted in red.
Cancel	Cancels the modifications to return to the last saved settings.

Com'X 200 User Interface Description

Overview

The main tabs and subtabs are described as follows:

Main Tab	Subtab	Description
General settings	**Site information**	Types the name of the site. This field is used by **Energy Operation** and **Energy Online**.
	Data logging	Configures the logging interval for each commodity and for environmental parameters.
	Publication	Selects the platform to which the data is published.
	Date/time settings	Sets the date and time manually.
Communication settings	**Modbus serial**	Configures the communication parameters of the Modbus serial port.
	Network settings	Configures the network of the Com'X 200 according to the accessories connected. Configures the communication parameters of the Ethernet ports or GPRS modem.
	Proxy settings	• Configures the **HTTP/HTTPS** proxy settings • Enables and disables HTTPS redirection *(see page 60)*.
	Wi-Fi access point settings	Turns on/off the Wi-Fi access point mode.
Device settings	–	Configures the metering architecture and the data to publish.
Measurements Table	–	Displays meters with metadata and data to be published.
Commissioning	–	• Checks the system configuration. • Starts or stops data logging. • Starts, stops, or tests data publication.
Custom Library	–	• Create a custom device model, which can be an entirely new device model, or can be based on an existing device model in the library. • Modify and delete custom models. • Import and export custom models.
Maintenance	**Logs**	Shows the date, time, and description of: • any change in the configuration • errors detected during logging • publication steps and status • communication interruption with metering devices • any unsuccessful login attempts
	System settings	Allows you to: • back up the configuration to a file on your PC. • restore a configuration from a file located on your PC to the Com'X 200. Activates the remote access for Schneider Electric technical support. Upgrades the Com'X 200 firmware.

Chapter 5
Quick Start Guide to Publish Data to Energy Operation

Overview

Use the following chapter as a tutorial for a first contact with Com'X 200.

NOTE: Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Quick Start Guide Overview	28
Define the General Settings	30
Define the Communication Settings to Publish the Data	31
Define the Metering Devices	33
Visualize the Data to Log and Publish	37
Publish the Data to Energy Operation	38

Quick Start Guide Overview

Scope

The quick start guide describes the configuration for these simple installations:
- publication to Schneider Electric **Energy Operation** through Ethernet or GPRS.
- metering devices connected directly to the Com'X 200.

Data Used for Publication

This table provides information on data used for the publication:

Field	Data Used
Customer	Whale company in this example
Site location name	Marseilles office in this example
Country	France in this example
Destination platform	**Energy Operation**
Subscription	Option 1: Ethernet connection
	Option 2: with Schneider Electric GPRS option

Data Logger

This table provides information on the data logger:

Device Type	IP Address	Device Location
Com'X 200	Affected by DHCP server	Main switchboard

Devices Used for Data Acquisition

This table provides information on digital input devices used for data acquisition:

Device Type	Connection	Pulse Weight	Device Location	Monitored Area	Usage	Measurements to Log and Publish
iEM2000T energy meter	Digital input DI1	0.01 kWh	Sub-switchboard 1	Level 1	Lighting	Active energy
iEM3210 energy meter	Digital input DI2	0.01 kWh	Sub-switchboard 2	Level 2	Lighting	Active energy

This table provides information on analog input devices used for data acquisition:

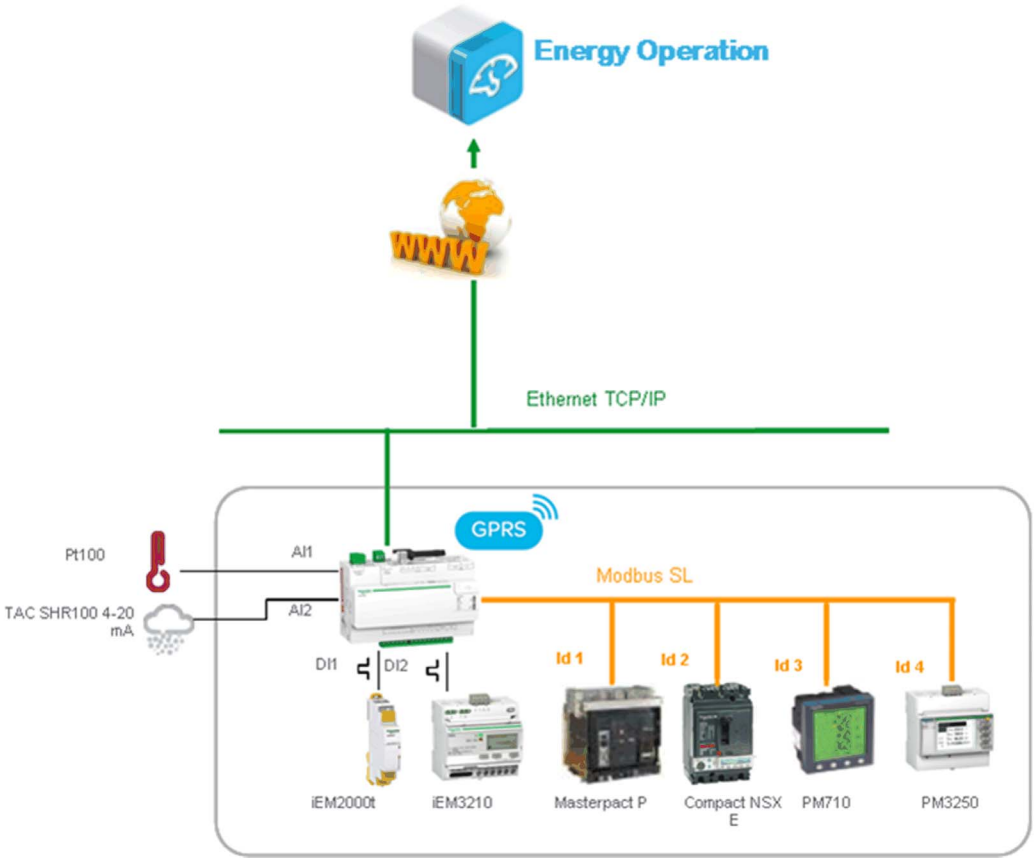
Device Type	Connection	Device Location	Monitored Area	Usage	Measurements to Log and Publish
Pt100 temperature probe	Analog input AI1	North outdoor	Outdoor	Not applicable	Temperature
TAC SHR100 humidity sensor 4–20 mA	Analog input AI2	North outdoor	Outdoor	Not applicable	Humidity

This table provides information on Modbus devices used for data acquisition:

Device Type	Slave Address	Device Location	Monitored Area	Usage	Measurements to Log and Publish
Masterpact with Micrologic P control unit	1	Main switchboard	General building	Main meter	Active energy
Compact NSX with Micrologic E control unit	2	Sub-switchboard 1	Level 1 - West	Ventilation	Active energy
PM710 power meter	3	Sub-switchboard 2	Level 2 - West	Computer room	Active energy
PM3250 power meter	4	Sub-switchboard 2	Level 2 - East	Ventilation	Active energy

Summary Diagram

This diagram summarizes the information required for data publication:



Define the General Settings

Site Information

Site Information subtab defines the site location name where metering is taking place.

This information is used by **Energy Operation** as a site name under which all measurements are assigned.

Follow this procedure to change the site name:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Site information** subtab.
3	Type the site name (Marseilles office in this example). **NOTE:** The site name must not include any of these characters: '/:*?<>| or space.
4	Click **Save changes**.

Date/Time Settings

Follow this procedure to set the date and time:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Date/time settings** subtab.
3	Select the appropriate **Timezone** in the dropdown list. If the DST time zone is selected, the clock will automatically adjust for Daylight Saving Time.
4	Click **Save changes**.
5	Click the **Today** button to set the date and time automatically with the date and time of your computer.

Data Logging

Follow this procedure to set the logging intervals for your country:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Data logging** subtab.
3	Select your country (France in this example). **NOTE:** This will automatically set the logging intervals of data for different commodities in the country.
4	Click **Save changes**.

Publication

Follow this procedure to set the **Energy Operation** data publication settings using an **FTP**:

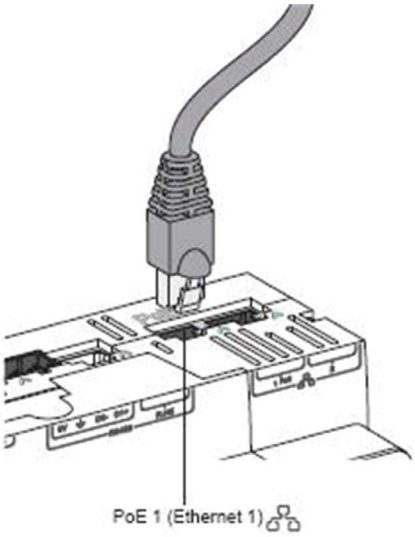
Step	Action
1	Click the **General settings** main tab.
2	Click the **Publication** subtab.
3	Select **Energy Operation** in the **Destination platform** dropdown list.
4	Select **FTP** in the **Protocol** dropdown list. **NOTE:** The FTP server and port are preconfigured.
5	Type the username and the password in the FTP server. This information is given with the **Energy Operation** subscription contract. Contact the Schneider Electric representative to provide you with this information.
6	Click **Save changes**. **NOTE:** Refer to Defining Transfer Protocol *(see page 43)* to use another transfer protocol such as HTTP or HTTPS.

Define the Communication Settings to Publish the Data

Overview

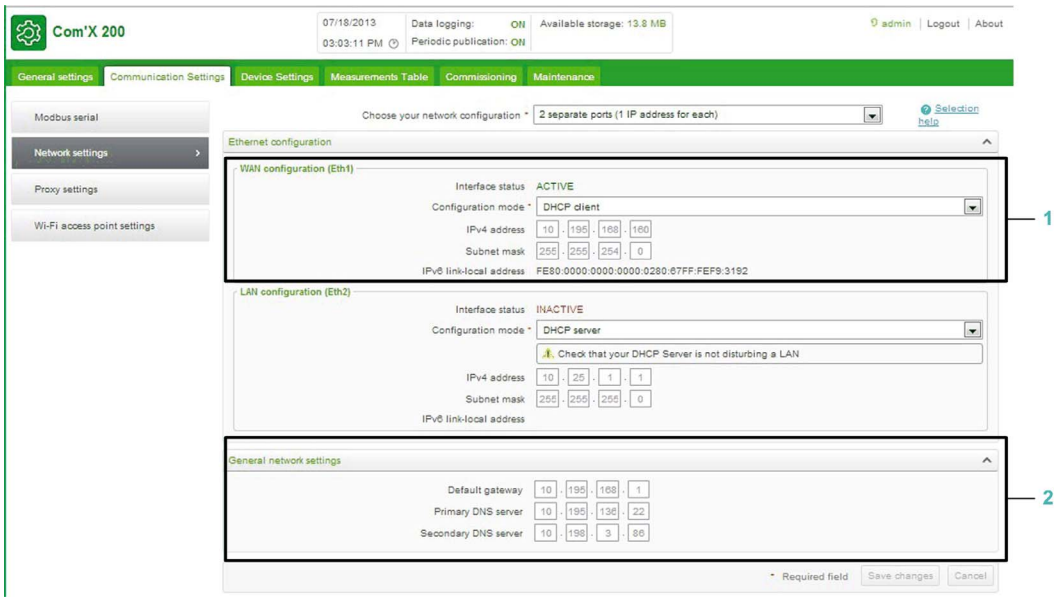
The Ethernet network port 1 has to be connected to the local network. Eth1 LED blinks once the connection is successful.

The Ethernet port 1 is set to DHCP client (factory setting). Therefore, the Com'X 200 obtains the IP address automatically from an existing DHCP server.



Data Publication Over Ethernet

This graphic shows the interface of the network settings:


Com'X 200
07/18/2013
03:03:11 PM
Data logging: ON
Periodic publication: ON
Available storage: 13.8 MB
admin | Logout | About
General settings
Communication Settings
Device Settings
Measurements Table
Commissioning
Maintenance
Modbus serial
Network settings
Proxy settings
Wi-Fi access point settings
Choose your network configuration *
2 separate ports (1 IP address for each)
Selection help
Ethernet configuration
WAN configuration (Eth1)
Interface status ACTIVE
Configuration mode * DHCP client
IPv4 address 10 . 195 . 168 . 160
Subnet mask 255 . 255 . 254 . 0
IPv6 link-local address FE80:0000:0000:0000:0280:67FF:FEF9:3192
LAN configuration (Eth2)
Interface status INACTIVE
Configuration mode * DHCP server
Check that your DHCP Server is not disturbing a LAN
IPv4 address 10 . 25 . 1 . 1
Subnet mask 255 . 255 . 255 . 0
IPv6 link-local address
General network settings
Default gateway 10 . 195 . 168 . 1
Primary DNS server 10 . 195 . 136 . 22
Secondary DNS server 10 . 198 . 3 . 86
* Required field
Save changes
Cancel
1
2

1 Ethernet configuration
2 General network settings

Follow this procedure to view the network parameters assigned to Ethernet port 1:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Network settings** subtab.
3	Select **2 Separate ports (1 IP address for each)** in the **Choose your network configuration** dropdown list. Network parameters are displayed in the **Ethernet configuration** and **General network settings** collapsible menus.
4	The port status is **ACTIVE** in the **WAN network configuration (eth1)**.
5	Click **Save changes**.

Data Publication Over GPRS

A **GPRS modem** with a SIM card must be plugged to the Com'X 200 for GPRS communication. The modem LED flashes every 5 seconds if correctly detected.

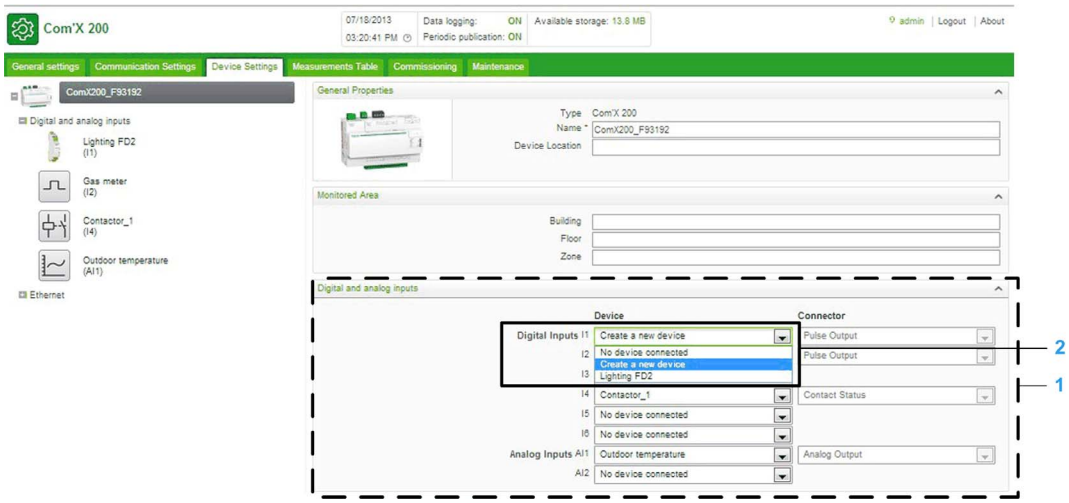
Follow this procedure to configure your GPRS:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Network settings** subtab.
3	Click **GPRS only** in the **Network configuration** dropdown list.
4	Type the **APN** provided with the SIM card.
5	Type the **username**, **password**, and **PIN code** if provided by the operator.
6	Click **Save changes**.
7	Check if the GPRS modem is activated. The modem LED shall be static with a color that depends on the GPRS signal level as shown below: ● : No modem detected ● : Modem detected ● : Modem not connected to a network ● : Weak signal level (red) ● : Medium signal level (yellow) ● : High signal level (green) Check the status of the GPRS modem and signal level on the banner.

Define the Metering Devices

Adding a Digital Input

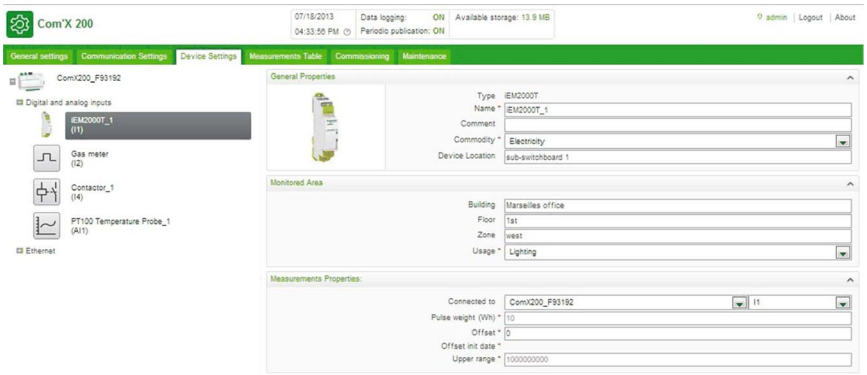
This graphic shows the interface when adding a digital input:



1 Digital and analog inputs collapsible menu
2 Device dropdown list

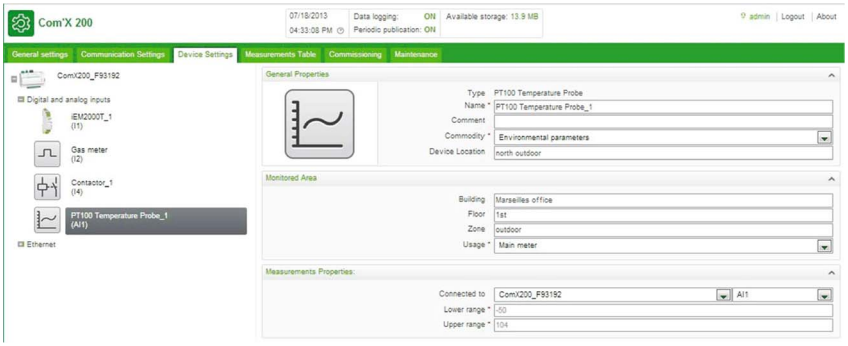
Follow this procedure to add a device on a digital input (for example, iEM2000T pulse meter):

Step	Action
1	Click the **Device settings** main tab.
2	Click the Com'X 200 in the device tree view.
3	In the **Digital and analog inputs** collapsible menu, select **Create a new device** on the digital input to which the pulse meter is connected.
4	In the pop-up window, select the Schneider Electric **Device Type** (iEM2000T) in the dropdown list.
5	Fill in the **General Properties** collapsible menu with ● **Name**: iEM2000T_1 ● **Comment**: none ● **Commodity**: electricity ● **Device Location**: sub-switchboard 1 Refer to General Properties *(see page 72)* for further information.
6	Fill in the **Monitored Area** with ● **Building**: Marseilles office ● **Floor**: 1 ● **Zone**: west ● **Usage**: lighting Refer to Monitored Area *(see page 73)* for further information.
7	Fill in the **Measurements Properties** collapsible menu with ● **Pulse weight (Wh)**: 10 ● **Offset (Wh)**: 0.0 ● **Upper Range (Wh)**: 1000000000 The list is restricted to the values that correspond to the selected device type. If there is only 1 possible pulse weight, the value is automatically set as for the iEM2000T pulse meter.
8	Click **Create** and the new device appears in the device tree view.

Step	Action
9	In the device tree view, click the digital input to view the device parameters and measurements. The active energy is selected by default to be logged and published. 
10	Repeat steps 3 through 9 to add other digital input devices.

Adding an Analog Input

Follow this procedure to add an analog input (for example, Pt100 temperature probe):

Step	Action
1	Click the **Device settings** main tab.
2	Click the Com'X 200 in the device tree view.
3	In the **Digital and analog inputs** collapsible menu, select **Create a new device** on the analog input to which the analog sensor is connected.
4	In the pop-up window, select the Schneider Electric **Device Type** (Pt100 temperature probe) in the dropdown list.
5	Fill in the **General Properties** collapsible menu with ● **Name**: Temperature probe PT100_1 ● **Comment**: none ● **Commodity**: environmental parameters ● **Device Location**: north outdoor Refer to General Properties *(see page 72)* for further information.
6	Fill in the **Monitored Area** with ● **Building**: Marseilles office ● **Floor**: 1 ● **Zone**: outdoor ● **Usage**: main meter Refer to Monitored Area *(see page 73)* for further information.
7	Click **Create** and the new device appears in the device tree view.
8	In the device tree view, click the analog sensor to view the device parameters and measurements. 
9	Repeat steps 3 through 9 to add other analog input devices.

Discovering Connected Devices

The Com'X 200 can discover Modbus devices that are connected locally to the serial port using the **Modbus Discovery** function.

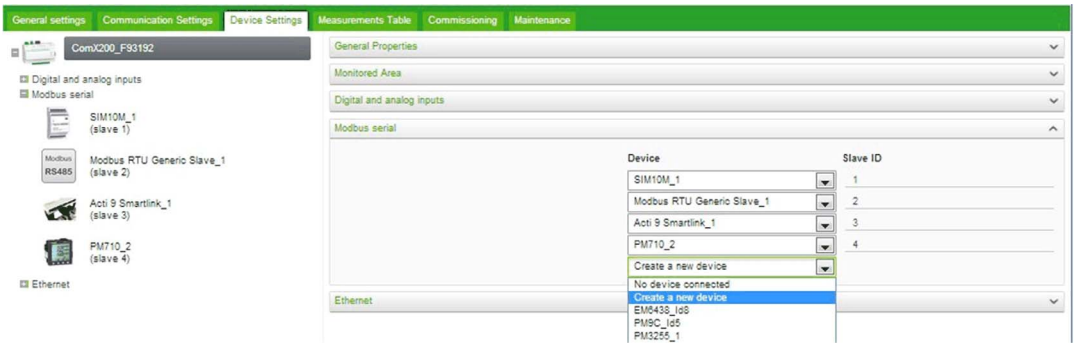
Follow this procedure to discover connected Schneider Electric Modbus serial meters:

Step	Action
1	Click the **Device settings** main tab.
2	Click the Com'X 200 in the device tree view.
3	Click **Discover connected devices** on the bottom left. This opens a **Modbus Discovery** pop-up window. The Com'X 200 discovers all connected devices with their **Slave IDs** (or addresses) that are within a range of 1...10. The start/stop address can be modified if the connected devices do not fall under this default range.
4	Click **Start** to scan the connected devices that are displayed in a list.
5	Click **Close** and all the discovered devices appear in the device tree view. Click a device to view the device parameters and measurements. The device name and the measurement to be logged and published can be modified.

Adding a Schneider Electric Modbus Serial Device

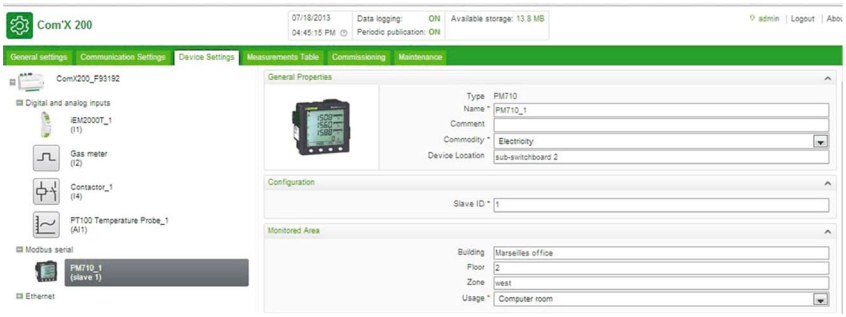
Modbus devices that are not connected cannot be discovered but they can be adding manually using the following procedure.

This graphic shows the interface when adding a Modbus serial device:



Follow this procedure to add a Modbus serial device (for example, PM710 meter):

Step	Action
1	Click the **Device settings** main tab.
2	Click the Com'X 200 in the device tree view.
3	In the **Modbus Serial** collapsible menu, select **Create a new device** on the input to which the serial meter is connected.
4	In the pop-up window, select Schneider Electric **Device Type** (PM710 meter) from the dropdown list.
5	Fill in the **General Properties** collapsible menu with • **Name**: PM710_1 • **Comment**: none • **Commodity**: electricity • **Device Location**: sub-switchboard 2 Refer to General Properties *(see page 72)* for further information.
6	Fill in the **Configuration** collapsible menu with the **Slave ID**: 1.
7	Fill in the **Monitored Area** with • **Building**: Marseilles office • **Floor**: 2 • **Zone**: west • **Usage**: computer room Refer to Monitored Area *(see page 73)* for further information.
8	Click **Create** and the new device appears in the device tree view.

Step	Action
9	In the device tree view, click the Modbus serial devices to view the device parameters and measurements. 
10	Repeat steps 3 through 9 to add other Modbus serial devices.

Visualize the Data to Log and Publish

Measurements Table Main Tab

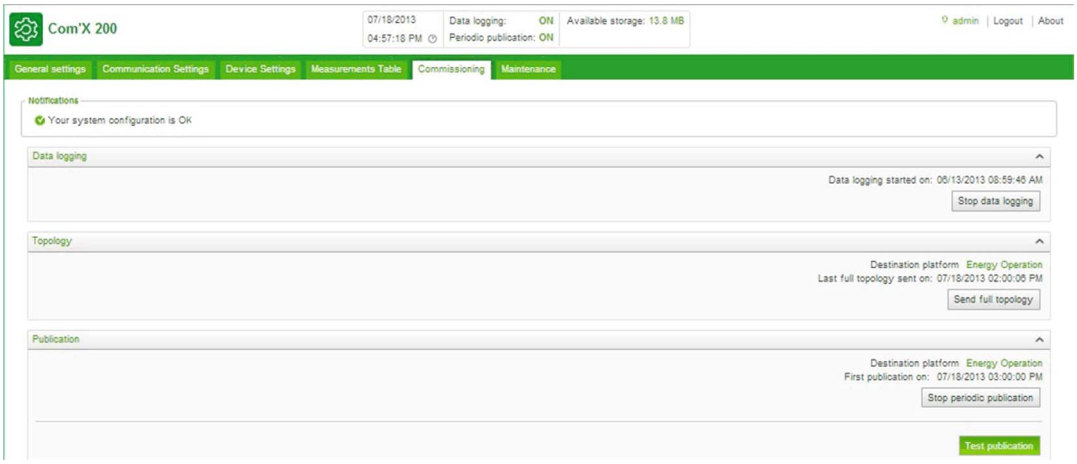
The **Measurements Table** tab displays the measurements selected.

By default, active and reactive energies, indexes and environmental parameters are automatically logged and published to the selected platform.

Publish the Data to Energy Operation

Commissioning Tab

The **Commissioning Tab** enables you to start/stop the logging of data and publication to **Energy Operation**.



Follow this procedure to publish periodically to **Energy Operation**:

Step	Action	Comment
1	Click **Commissioning** main tab.	Missing parameters are described in the **Notifications** collapsible menu. Click the link to access the corresponding tab and complete the required parameter.
2	Click **Start data logging**.	Activates the logging of selected data from devices to be retrieved, stored, and published.
3	Click **Send full topology**.	Sends the metering architecture, associated with a meter or sensor, to **Energy Operation**. Refer to Monitored Area Presentation *(see page 73)* for more information on metering architecture. **NOTE:** ● If the topology is not sent to **Energy Operation**, a flat list of meters is created under a site named *Site Newmeters*. ● If you modify the configuration (for example, by adding measurement data on an existing meter or adding a new meter on a Com'X 200 that was already publishing), sending the topology has no effect. You need to contact Schneider Electric support.
4	Click **Test publication**.	Sends data to **Energy Operation**.
5	Click **Start publication**.	Sends data to **Energy Operation** according to the frequency set in **Publication settings** *(see page 30)*. The next publication time is displayed.

Chapter 6
General Settings

Overview

This chapter describes how to configure the general settings of the Com'X 200.

NOTE: Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Site Information	40
Date and Time Settings	41
Data Logging	42
Publication	43

Site Information

Overview

The **Site name** field that appears in the **Site information** collapsible menu is used as a site name by different platforms. All measurements are assigned to this site location.

Site Identification with Energy Operation and Energy Online

Energy Operation: the **Site name** parameter is used to create the site location name that appears in **Energy Operation** platform environment.

Energy Online: the **Site name** parameter is used to create the second field of the site location name that appears in **Energy Online** platform environment.

NOTE: For **Energy Online**, the first field is defined by the `Customer ID` parameter defined in the **Publication** subtab.

Follow this procedure to change the site name:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Site information** subtab.
3	Type the site location name. **NOTE:** The site location name must not include any of the following characters: '/:*?<>| or space.
4	Click **Save changes**.

Date and Time Settings

Overview

The **Date/time settings** subtab allows you to set the date and time by time zone or manually.

Procedure

Follow this procedure to set the date and time:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Date/time settings** subtab.
3	Select the appropriate **Timezone** in the dropdown list. If the DST time zone is selected, the clock will automatically adjust for Daylight Saving Time.
4	Click **Save changes**.
5	Click the **Today** button to set automatically the date and time with the date and time of your computer.

When the Com'X 200 is connected to the **Remote Service Platform**, the date and time are regularly updated from a time server. Any manual changes on the date and time are overwritten.

It is recommended to select DST time zone when using **Energy Operation** and **Remote Service Platform** to have consistent time stamping with the Com'X 200.

NOTE: After selecting RSP publication in the **General Settings** →**Publication** subtab, do not change date and time settings until the association is complete.

Data Logging

Defining the Logging Intervals

The Com'X 200 can log data at pre-defined intervals. The logging interval can be set for each type of measurement, for example, electricity, water, or gas.

NOTE:

For **Energy Online** publication:

- Select a logging interval equal or greater than 5 minutes. Values less than 5 minutes are invalid on **Energy Online** platform.
- Contact the local **Schneider Electric** technical support to change the data logging intervals after publication is activated.

Follow this procedure to define the logging intervals:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Data logging** subtab.
3	Select your country. **NOTE:** This will automatically set the logging intervals of data for different commodities in the country.
4	Click **Save changes**.

Logging Capacity in Case of Communication Interruption

The data logging can be interrupted from communicating to the platform to which the data is sent.

The logging capacity depends on the selected logging interval and the number of measurements.

The maximum number of recorded intervals is 864,000. This corresponds to 200 measurements recorded every 10 minutes for a duration of 1 month.

In the page banner, 2 indicators help you manage the logging capacity:

- the available storage in MB.
- the logged data versus maximum logging capacity. This is represented in %. When the value reaches 80 %, a notification is displayed in the banner and an event is logged in the log file.

Publication

Overview

Use the **Publication** subtab to:
- select the platform to which the logged data is sent
- register your software with Schneider Electric for product support

The Com'X 200 can publish data to 4 different Schneider Electric platforms (database servers):
- **Energy Operation**
- **Energy Online**
- **Remote Service Platform (RSP)**
- **CSV Export Platform**

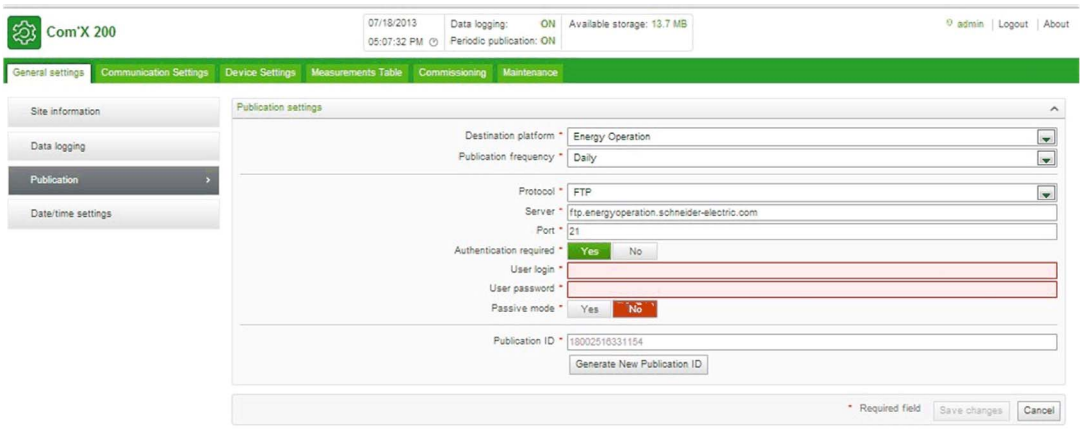
The Com'X 200 exports the data in the right file format according to the selected platform. Then the data can be analyzed in the service to which you have subscribed.

The subscription to **Energy Operation**, **Energy Online**, or **RSP** must be set up with a Schneider Electric representative before setting up the Com'X 200 **Destination platform**.

The Com'X 200 can also export data to your own database server in a *.csv* file.

Selecting Platform and Publication Frequency

This graphic shows the interface to select the destination platform and publication frequency:



Follow this procedure to select the destination platform and publication frequency:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Publication** subtab.
3	Select the **Destination platform** in the dropdown list.

4	Select how often the data is sent in the **Publication frequency** dropdown list:
	● Weekly: select the day of the week.
	● Daily: the data is sent at 1:00 a.m. local time.
	● For higher frequencies, publication times are calculated starting at 0:00 a.m. For example if:
	  ● **Every 2 hours** is selected, data is sent at 0:00 a.m., 2:00 a.m., 4:00 a.m., and so on.
	  ● **Every 3 hours** is selected, data is sent at 0:00 a.m., 3:00 a.m., 6:00 a.m., and so on.

5	Click **Save changes**.

NOTE:
- The first publication is done the first hour that matches with the selected frequency after the **Start publication** task in Commissioning *(see page 95)*. For example, if **Every 2 hours** is selected and the publication starts at 9:45 a.m., the first publication is at 10:00 a.m.
- When publication with RSP is activated, it is not possible to change to a different publication platform. In order to change platform, you must perform a Reset to Factory Settings *(see page 125)*.
- After selecting RSP as the destination platform in the **Publication** subtab, do not start publication until the association is complete.

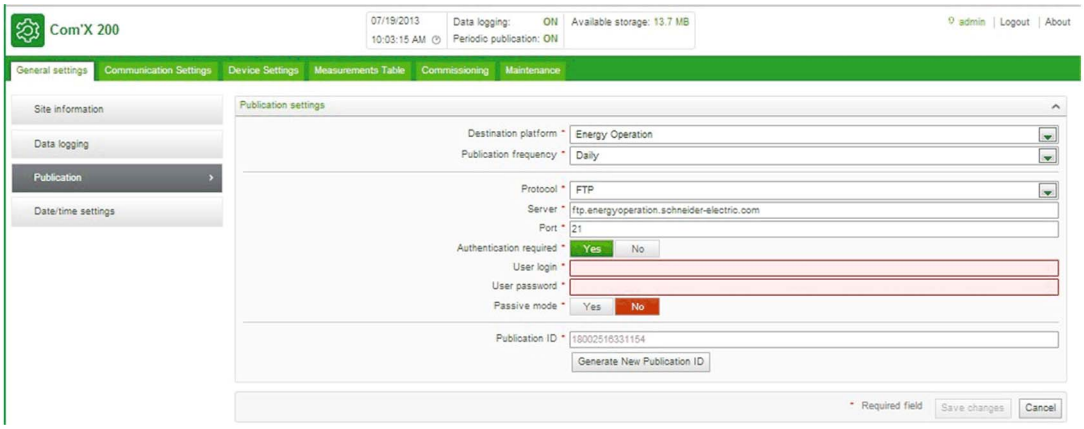
Defining Transfer Protocol

There are different ways to export the data. The protocols in the **Protocol** dropdown list vary depending on the selected platform, as shown in this table:

Platforms	Supported Transfer Protocols	File Format
Energy Operation	FTP *(see page 44)*, HTTP, and HTTPS *(see page 45)*	XML
Energy Online	FTP, HTTP, HTTPS, and SMTP (email) *(see page 46)*	CMEP
Remote Service Platform	Automatically defined by the Com'X 200	EWS
CSV export	FTP, HTTP, HTTPS, and SMTP (email)	CSV

FTP Transfer Protocol

This graphic shows the interface when selecting FTP protocol:



Follow this procedure to transfer data with the FTP protocol:

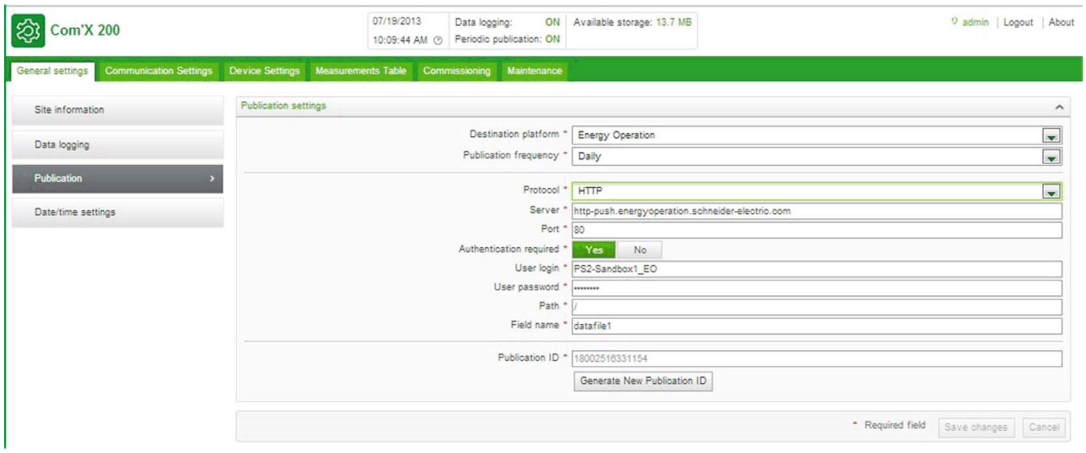
Step	Action
1	Click the **General settings** main tab.
2	Click the **Publication** subtab.
3	Select the **Destination platform** in the dropdown list.
4	Select FTP in the **Protocol** dropdown list.
5	Type the address of the server transporting the data in the **Server** field. **NOTE:** Server addresses for **Energy Operation** and **Energy Online** are automatically filled. Do not modify the server address for these platforms.
6	Type the outgoing delivery port in the **Port** field. The factory setting is 21.
7	Select **Yes** in the **Authentication required** field for **Energy Operation** and **Energy Online**.
8	Type the username and the password. This information is given with the subscription contract. Contact the Schneider Electric representative to provide you with this information.
9	Type the directory information for the remote server in the **Directory** field (only for CSV).
10	Select **No** in the **Passive mode** field for **Energy Operation** and **Energy Online**. **NOTE: Passive mode** defines how the FTP client runs (Yes = Passive, No = Active or Not passive). It is recommended to run the FTP client as passive mode when a firewall is located in the network. **NOTE:** It is recommended to create one directory for each site to help prevent overwriting files that support the same names and are transmitted at the same date and time.
11	Click **Save changes**.

Passive mode defines how the FTP client runs (Yes = Passive, No = Active or Not passive).

NOTE: It is recommended to run the FTP client as passive mode when a firewall is located in the network.

HTTP or HTTPS Transfer Protocols

This graphic shows the interface when selecting HTTP or HTTPS protocols:



Follow this procedure to transfer data with the HTTP or HTTPS protocols:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Publication** subtab.
3	Select the **Destination platform** in the dropdown list.
4	Select HTTP or HTTPS in the **Protocol** dropdown list.
5	Type the address of the server transporting the data in the **Server** field. The server address: ● automatically filled for **Energy Operation**. Do not modify the server address for this platform. ● depends on the country and has to be provided by the Schneider Electric representative for **Energy Online**.
6	Type the outgoing delivery port in the **Port** field. The factory setting is 80 for HTTP and 433 for HTTPS.
7	Select **Yes** in the **Authentication required** field for **Energy Operation** and **Energy Online**.
8	Type the username and the password. This information is given with the subscription contract. Contact the Schneider Electric representative to provide you with this information. **NOTE:** The username and password are case-sensitive.
9	In the **Path** field, type the path to the server script executed by the web server when the Com'X 200 sends data to the web server. This field is already filled with a **/**. Do not modify this value when **Energy Operation** is selected as a platform.
10	According to your network administrator either: ● Type the name under which the web server expects the file name in the **Field Name** field (only for CSV), or ● Use the **datafile1** factory setting.
11	Click **Save changes**.

NOTE: Certificate considerations for HTTPS

You can secure the HTTP connection to your server with TLS/SSL technology.

As with a web browser, the box is preloaded with all the major certificate authorities as of 25/03/2013. See the list in appendix B *(see page 141)*.

1. There is no way to import your own custom certificate.
2. Together with the firmware updates, Schneider Electric offers an update of the list of certificate authorities.

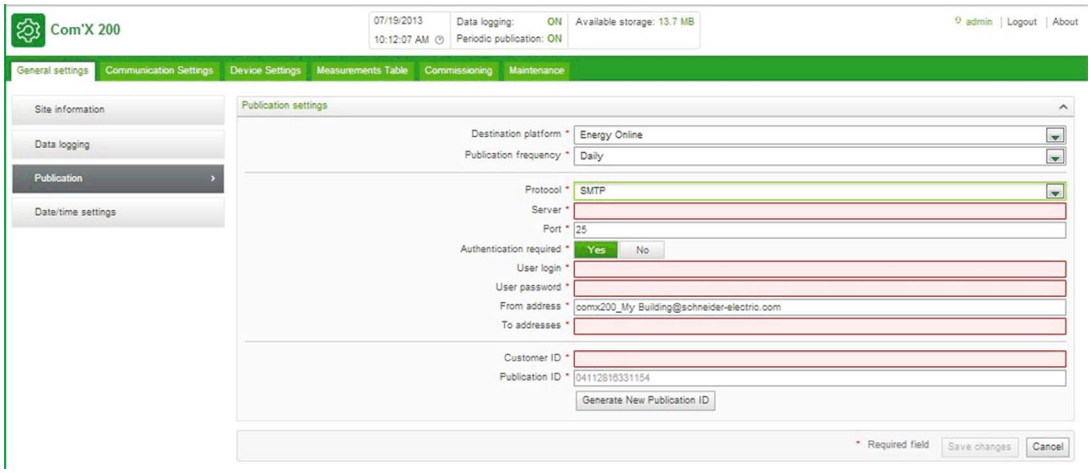
This means that your HTTPS server certificates must have been issued by 1 of the boxes trusted certificate authorities. Check with your IT department to know if your HTTPS server certificate complies with this rule. If not, you can always fall back to HTTP.

NOTICE
UNAUTHORIZED ACCESS Do not disable HTTPS redirection if there is sensitive or private information on your local network. **Failure to follow these instructions can result in equipment damage.**

SMTP Transfer Protocol

The SMTP protocol is available only with **Energy Online** platform or a CSV export.

This graphic shows the interface when selecting SMTP protocol:



Follow this procedure to send the data file by email with the SMTP protocol:

Step	Action
1	Click the **General settings** main tab.
2	Click the **Publication** subtab.
3	Select **Energy Online** in the **Destination platform** dropdown list.
4	Select SMTP in the **Protocol** dropdown list.
5	Type the address of the server transporting the data in the **Server** field. **NOTE:** The server address for **Energy Online** is automatically filled. Do not modify the server address for this platform.
6	Type the outgoing delivery port in the **Port** field. The factory setting is 25.
7	Select **Yes** in the **Authentication required** field for **Energy Online**.
8	Type the username and the password. This information is given with the subscription contract. Contact the local IT representative to get this information. **NOTE:** The username and password are case-sensitive.
9	Type the address of the email sender in the **From address** field. The factory setting is under the format: `ComX200_SiteName@schneider-electric.com`. **NOTE:** Most SMTP servers require a **From address**.
10	Type the addresses of the recipients in the **To addresses** field. Separate the addresses with a semicolon (;). Exported files are zipped to reduce the size of attached documents in the email.
11	Click **Save changes**.

Publication Identification Settings

This table describes the publication identification settings for **Energy Operation**:

Field/Button	Description
Publication ID	This number is a unique identifier of the site for the **Energy Operation** database. It is used to create a site in **Energy Operation**. This ID is automatically generated by the Com'X 200. **NOTE:** This number is maintained even after a Reset to Factory Settings *(see page 126)*.
Generate new publication ID	This button generates a new publication ID number. Use this button whenever you reuse: ● the Com'X 200 for a new site. ● the current Com'X 200 configuration on a different site.

This table describes the publication identification settings for **Energy Online**:

Field/Button	Description
Customer ID	Identifies the customer responsible for the site. This information is given with the subscription contract. Contact the Schneider Electric representative to provide you with this ID. The Customer ID must not include the ' character.
Publication ID	This number is a unique identifier of the site for the **Energy Online** database. It is used to create an account in **Energy Online**. It is part of the `Account ID`. This ID is automatically generated by the Com'X 200. **NOTE:** This number is maintained even after a Reset to Factory Settings *(see page 126)*.
Generate new publication ID	This button generates a new publication ID number. Use this button whenever you reuse: ● the Com'X 200 for a new site. ● the current Com'X 200 configuration on a different site.

File Format of CSV Export

There is 1 file exported for each device.

Exported files are in the following naming format: `Device Name_Date&time.csv` where `Device Name` is the name given to the slave device. The date and time are appended to the file name in the following format: `_yyyymmddhhmmss`.

For example:

- Device name: `Building 1 Utility Entrance`
- Date/time: 20130218115216

The exported file is named `Building 1 Utility Entrance_20130218115216.csv` and was exported on February 18, 2013 at 11:52:16 a.m.

The following table provides the details of each line of a CSV file format:

Row	Data in CSV Format	Description
1	**[Gateway Name,Gateway SN,Gateway IP Address,Gateway MAC Address,Device Name,Device Local ID,Device Type ID,Device Type Name,Login Interval,Historical Intervals]**	This row contains the column headings for the information in row 2.
2	**[ComX200_F930B8,DN13045SBX10091,10.195.23.45,00:80:67:F9:30:B8,COMX_008067F930B8_1,Resource-1,PM810,PM810,30,6,23227,157.198.184.116,Building 1 Utility Entrance,3,CM4000,15]**	This row contains the information about the Com'X 200 and the logged device.
3	This row is left blank.	–
4	**[...Topic ID 1, Topic ID 2, Topic ID 3]**	This row contains the column headings for the topic IDs(1) in row 5. The first 3 commas are used for layout purposes in a spreadsheet application.
5	**[...1617,1621,1625]**	This row contains the topic IDs of the values logged.
6	This row is left blank.	–
7	**[Error,UTC Offset (Minutes),Local Time Stamp,Apparent Energy (kVAh),Real Energy (kWh),Reactive Energy (kVARh)]**	This row contains the column headings for the data logged in rows 8 and higher.
8 and higher	**[0,-300,2008-10-09 14:15:00,1400738,219,1201962.707,647069.906,15]** **[0,-300,2008-10-09 14:20:00,1400758,260,1201980.725,647078.602,15]** **[0,-300,2008-10-09 14:25:00,1400778,198,1201998.661,647087.233,15]**	These rows contain the logged data.

(1) A topic ID is a numerical reference to the quantity being logged. The name given to a quantity may slightly differ between devices and languages. Topic IDs are used to identify the quantity regardless of the device or language.

Remote Service Platform Connection

The connection to the **Remote Service Platform** is automatically made when clicking **Save changes**. This table describes the status when connecting to the **Remote Service Platform**:

Field	Description
Initializing	Connection process is starting.
Configuring destination platform	The Com'X 200 reads internal information to establish the connection. If a network error occurs, check: ● the IP settings in the **Communication settings/Network settings** page. ● the proxy settings in the **Communication settings/Proxy settings** page.
Device identified	Connection is established with the remote service. Your device has been identified on the remote platform.
Connecting to the destination platform	The Com'X 200 tries to publish a test message.
Connected to the destination platform	Publication is made possible only when this status is displayed. If this message does not display, contact **RSP** support.

NOTE: When using the RSP connection, firmware upgrades are automatically launched. If you want to use the RSP platform through GPRS connection, it is recommended to update the firmware before setting up RSP. Refer to the topic Firmware Upgrade *(see page 118)* for more information.

Chapter 7
Communication Settings

Overview

This chapter describes how to configure the communication settings of the Com'X 200.

NOTE: Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
7.1	Modbus Serial Port	50
7.2	Network Settings	53
7.3	Proxy Settings	60
7.4	Wi-Fi Access Point Settings	62
7.5	Gateway Access	63

Section 7.1
Modbus Serial Port

Overview

In this chapter, the serial line properties of the local Modbus/RS-485 network controlled by the Com'X 200 are defined.

What Is in This Section?

This section contains the following topics:

Topic	Page
Common Modbus Serial Port Settings	51
Com'X 200 Modbus Serial Port Settings	52

Common Modbus Serial Port Settings

Overview

The Com'X 200 is the master of this Modbus serial line. All the other devices connected to this serial line must be configured as Modbus slaves. The device settings such as **Baud rate**, **Parity**, and **Number of stop bits** must match the Com'X 200. These settings are set by using the front display of each device.

Description

This table describes the Modbus serial port settings:

Field	Description	Comment
Baud rate	Defines the speed of the serial line.	The values can be selected between 1200, 4800, 9600, 19200, 38400, 57600, and 115200 Bauds.(1) The factory setting is 19200 to match the values of Schneider Electric equipment. Most third-party Modbus equipment supports this Baud rate.
Parity	Defines the parity bit of the transmitted bytes.	Options: ● **odd**(2) ● **even** ● **none** The factory setting is **even** to match the values of Schneider Electric equipment. Most third-party Modbus equipment supports this parity setting.
Number of stop bits	Defines the number of stop bits transmitted between 2 bytes.	Options: 1 or 2. The factory setting is 1 to match the values of Schneider Electric equipment. Most third-party Modbus equipment supports this number of stop bits.
Timeout	Defines the time the Com'X 200 has to wait before generating an error for an unanswered Modbus request.)	Options: 100...10000 ms. The factory setting is 1000 ms to match the values of Schneider Electric equipment.
Terminator resistance	Has a value of 120 Ω.	It must be activated if the Com'X 200 is located at the end of the Modbus bus. Not following this rule can result in communication interruption.
Serial line polarization	Has a value of 510 Ω.	We recommend that the master polarizes the line. No other slave device has to support line polarization resistances or to activate serial line polarization resistances.

(1) A high Baud rate value reduces response time but may be more sensitive to disturbance. In case of disturbance, check the impedance on the serial line before reducing the Baud rate.

(2) Even or odd settings enable a byte integrity check that may detect a transmission error at byte level. At this level, there is no advantage to use this check: Modbus protocol provides a CRC checking that keeps the integrity of the whole Modbus frame.

Com'X 200 Modbus Serial Port Settings

Overview

The RS-485 serial line standard is an industrial standard. If configured correctly, it can potentially reduce transmission error even in an environment with electrical disturbance.

Description

Follow this procedure to set up the Com'X 200 Modbus serial line:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Modbus Serial** subtab.
3	Select the required value in the **Baud rate** dropdown list.
4	Select the required value in the **Parity** dropdown list.
5	Select the required value in the **Number of stop bits** dropdown list.
6	Select the required value in the **Timeout** dropdown list.
7	Select **Yes** in the **Terminator resistance** field.
8	Select **Yes** in the **Serial line polarization** field if no other device in the line is providing polarization.
9	Click **Save changes**.

Section 7.2
Network Settings

Overview

The Com'X 200 offers 2 connection interfaces:
- Ethernet with 2 ports
- GPRS for isolated sites or sites where the IT administrator does not allow access to the network infrastructure.

What Is in This Section?

This section contains the following topics:

Topic	Page
Network Configuration Options	54
Ethernet Port Settings	55
GPRS Settings	58

Network Configuration Options

Connection Interface Usage

The Com'X 200 features 2 Ethernet ports as well as a bay for a GPRS module.

This table presents the different options for the network configuration of the Com'X 200:

Options	Port		
	Ethernet Port 1	Ethernet Port 2	GPRS
GPRS only	–	Configuration	Data publishing
GPRS and switched network	Configuration and data collection		Data publishing
2 Switched Ports (1 IP address for both)	Configuration, data collection and publishing		–
2 Separate Ports (1 IP address for each)	Configuration and data publishing	Configuration and data collection	–

With a GPRS Modem

The GPRS modem is used to publish data.

If you want to use the Ethernet for data collection, configure the Com'X 200 in **GPRS and Switched network**, otherwise the Com'X 200 must be configured as **GPRS only**.

When the Com'X 200 is configured in **GPRS only**, the Ethernet port 2 acts as a DHCP server. This mode enables a PC connection for configuration.

If a Wi-Fi module is connected on the front panel, it can be used to establish a connection with a PC, a tablet, or a smartphone in order to configure the system. The connection via the Wi-Fi module cannot be an always-on connection.

Selection

Follow this procedure to select the network configuration of the Com'X 200:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Network settings** subtab.
3	Select the network configuration in the **Choose your network configuration** dropdown list. To save a network configuration, the required accessories must be attached to and detected by the Com'X 200.
4	If necessary, enter the parameters for each connection interface displayed. Refer to the corresponding sections: Ethernet *(see page 57)* and GPRS *(see page 58)*.
5	Click **Save changes**.
6	Wait at least 3 min for the Com'X 200 to reboot. The power LED turns green when the reboot is complete.

Reboot Cases

This table describes the cases when changing the configuration causes an automatic reboot:

Initial Network Configuration	New Network Configuration
2 separate ports	• 2 switched ports • GPRS and 2 switched ports
GPRS only	• 2 switched ports • GPRS and 2 switched ports
2 switched ports	• 2 separate ports • GPRS only
GPRS and 2 switched ports	• 2 separate ports • GPRS only

Ethernet Port Settings

Overview

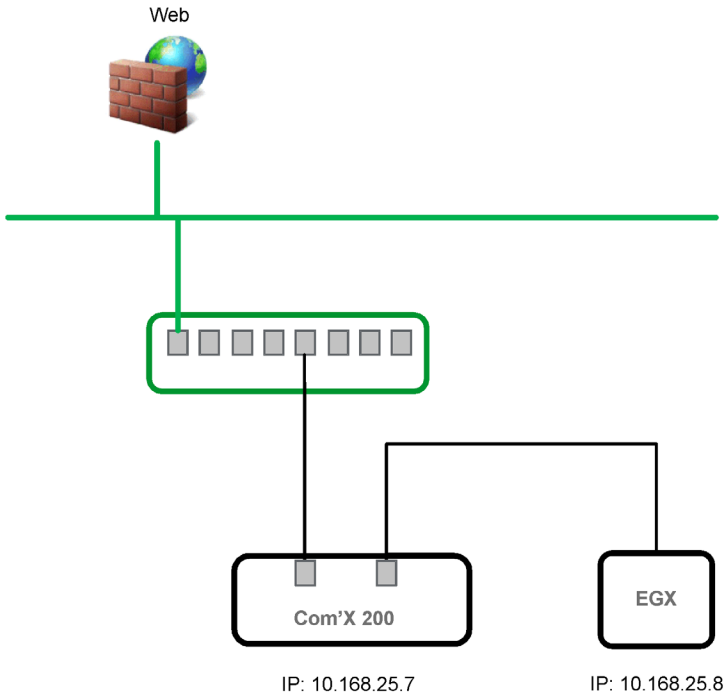
The Com'X 200 features 2 Ethernet ports.

The Ethernet ports can be configured in 2 modes:

- Switch mode: 2 Ethernet ports share the same configuration.
- Upstream/downstream mode: 2 Ethernet ports are configured separately.

Switch Mode Configuration

This graphic illustrates the Ethernet port configuration in switch mode:

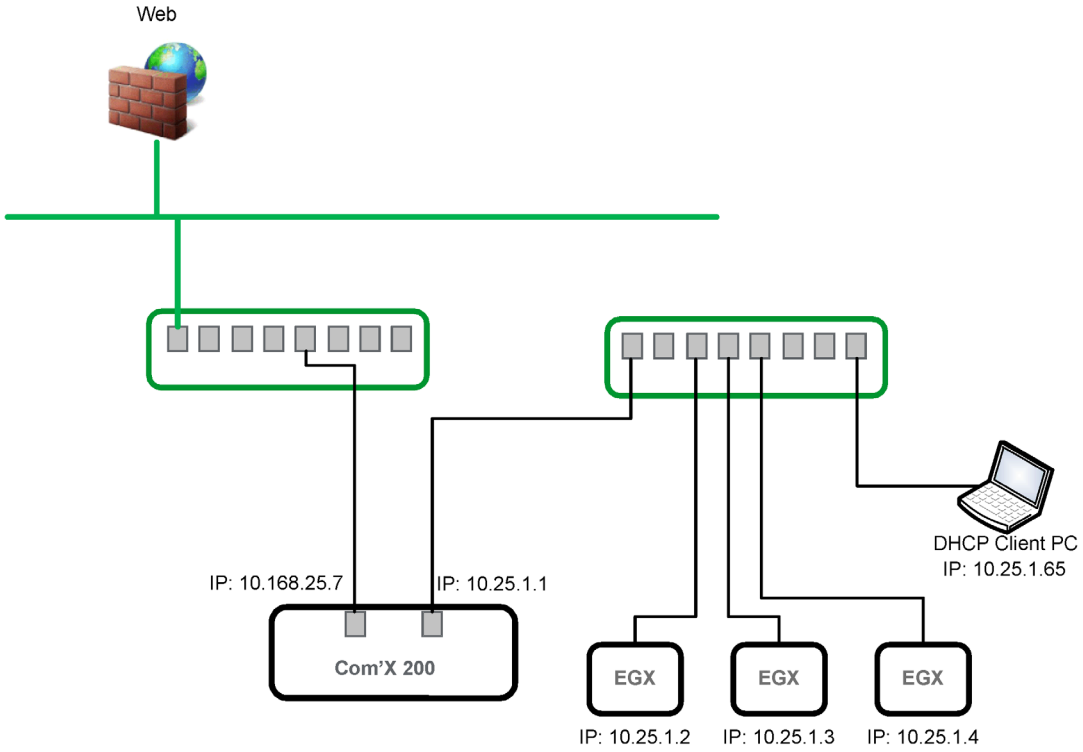


In switch mode, both Ethernet ports have the same settings. Using 2 ports simplifies wiring:

- 1 port can be connected to a switch in the local network.
- 1 port can be used to connect a PC for configuration operations or to connect a data collection device locally with an Ethernet port.

Upstream/Downstream Mode Configuration

This graphic illustrates the Ethernet port configuration in upstream/downstream mode:



In upstream/downstream mode, the 2 Ethernet ports have different settings and function independently:

- 1 port must be used for data publishing.
- 1 port must be used for data collection.

The port used for data publishing (eth1) can be configured in DHCP client mode or static IPv4 address mode. The port used for data collection (eth2) can be configured in DHCP client, static IPv4 address, or DHCP server.

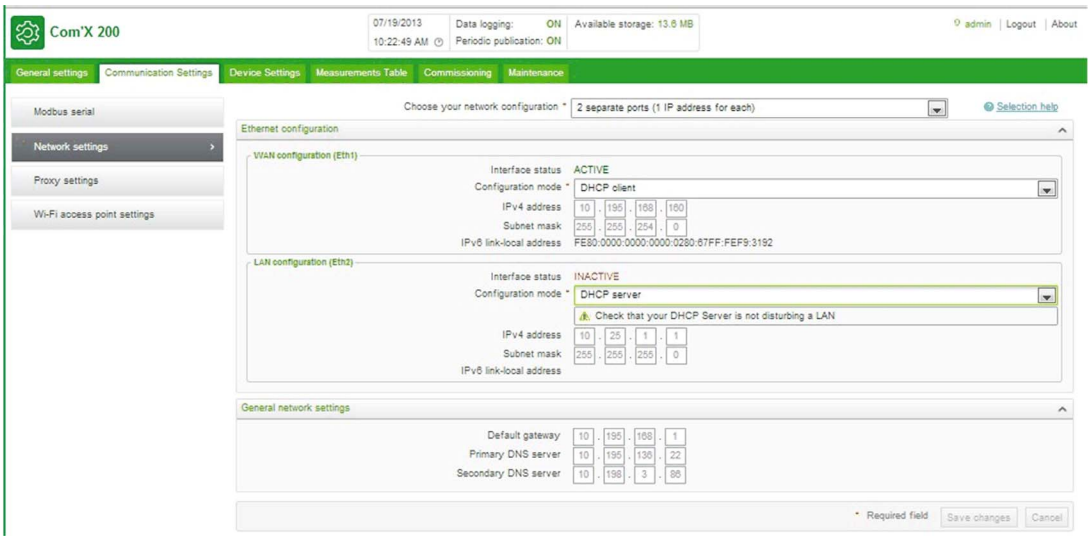
Ethernet Configuration Settings

DHCP client: the IP address is automatically assigned by the Com'X 200. When using Windows XP, it is recommended to have a fixed IP address. Refer to IPv4 Address Settings *(see page 145)* in appendix C. The IP address is obtained by a DSL modem or by a network administrator.

Static IPv4 address: type the IP, subnetwork mask, and default gateway addresses. Addresses are assigned to the Com'X 200 by the IT administrator.

Ethernet Port Configuration

This graphic shows the interface when the configuration of 2 separate ports is chosen:


Com'X 200
07/19/2013
10:22:49 AM
Data logging: ON
Periodic publication: ON
Available storage: 13.6 MB
admin | Logout | About
General settings
Communication Settings
Device Settings
Measurements Table
Commissioning
Maintenance
Modbus serial
Network settings
Proxy settings
Wi-Fi access point settings
Choose your network configuration *
2 separate ports (1 IP address for each)
Selection help
Ethernet configuration
WAN configuration (Eth1)
Interface status ACTIVE
Configuration mode * DHCP client
IPv4 address 10 . 195 . 168 . 160
Subnet mask 255 . 255 . 254 . 0
IPv6 link-local address FE80:0000:0000:0000:0280:67FF:FEF9:3192
LAN configuration (Eth2)
Interface status INACTIVE
Configuration mode * DHCP server
Check that your DHCP Server is not disturbing a LAN
IPv4 address 10 . 25 . 1 . 1
Subnet mask 255 . 255 . 255 . 0
IPv6 link-local address
General network settings
Default gateway 10 . 195 . 168 . 1
Primary DNS server 10 . 195 . 136 . 22
Secondary DNS server 10 . 198 . 3 . 88
* Required field
Save changes
Cancel

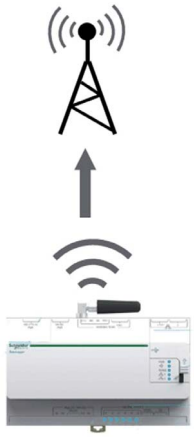
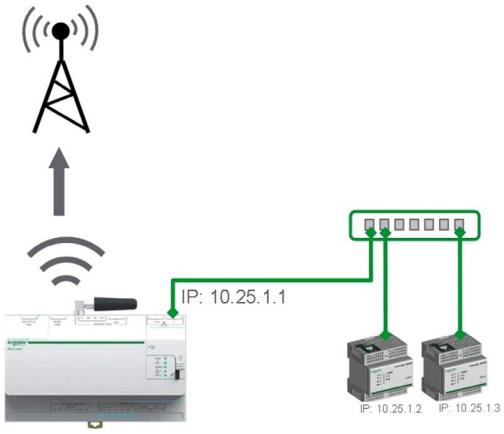
Follow this procedure to configure the 2 separate ports:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Network settings** subtab.
3	Select the **Choose your network configuration** field. **NOTE:** If you change the configuration of the Ethernet port you are configuring through, you will be disconnected through the browser. Begin a new browsing session to continue configuration.
4	Select **2 Separate Ports (1 IP address for each)** in the dropdown list.
5	Select **DHCP client** and **Static IPv4 address** in the **Configuration mode** dropdown list.
6	In the **Ethernet configuration** collapsible menu, enter the parameters in the **WAN network configuration (eth1)** and **LAN network configuration (eth2)** fields. The **Interface Status** field changes to **ACTIVE**.
7	In **General network settings** collapsible menu, type the addresses in the **Default gateway**, **Primary DNS server**, and, if necessary, **Secondary DNS server** fields. Addresses are assigned to the Com'X 200 by the IT administrator.
8	Click **Save changes**.

GPRS Settings

Overview

This table illustrates GPRS settings:

GPRS Only	GPRS and 2 Ethernet Switched Ports (1 IP Address for Both Ports)
	

The GPRS access can be added to the Com'X 200 by using a modem that can be installed under the cover.

Description

GPRS access settings depend on the GPRS modem that is connected.

There are 2 reference numbers for the GPRS modem:

- EBXA-GPRS-SIM
- EBXA-GPRS

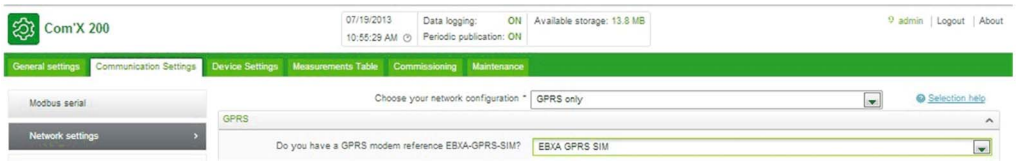
NOTE: The good operation of GPRS and Wi-Fi is not guaranteed with other GPRS modem or Wi-Fi USB key.

Access Settings with EBXA GPRS SIM Card

The SIM card is embedded in the GPRS modem. You can only use the EBXA GPRS SIM to publish data if you are exporting data to **Remote Service Platform**. The settings of this GPRS access are set by the Com'X 200.

The reference **EBXA-GPRS-SIM** must be selected for the GPRS modem.

This graphic shows the interface for accessing the GPRS modem with an EBXA GPRS SIM card:



Access Settings with EBXA-GPRS

The EBXA-GPRS modem requires:

- a mini SIM 2FF type card .
- a minimum 1 MB/month data export on the telecom contract.

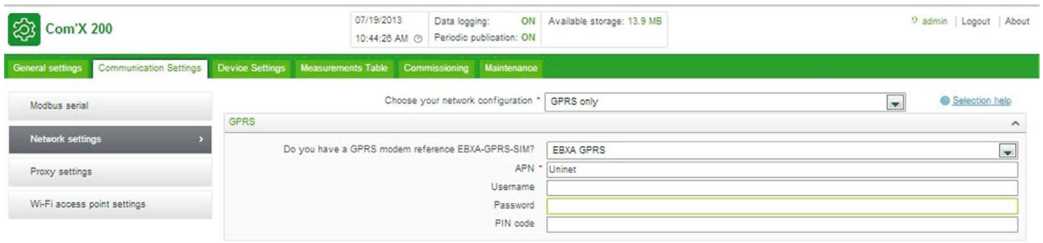
We recommend a robust M2M SIM card rather than a standard SIM card.

Follow this procedure for accessing GPRS settings with an EBXA-GPRS modem:

Step	Action
1	Insert the SIM card into the GPRS modem.
2	Type the **APN**, **Username**, **Password**, and **PIN Code** provided by the GPRS access provider.
3	Click **Save changes**.

NOTE: The PIN code of the SIM card and the password cannot be changed by the Com'X 200.

This graphic shows the interface for accessing the GPRS modem with an EBXA-GPRS:



Section 7.3
Proxy Settings

Proxy Settings

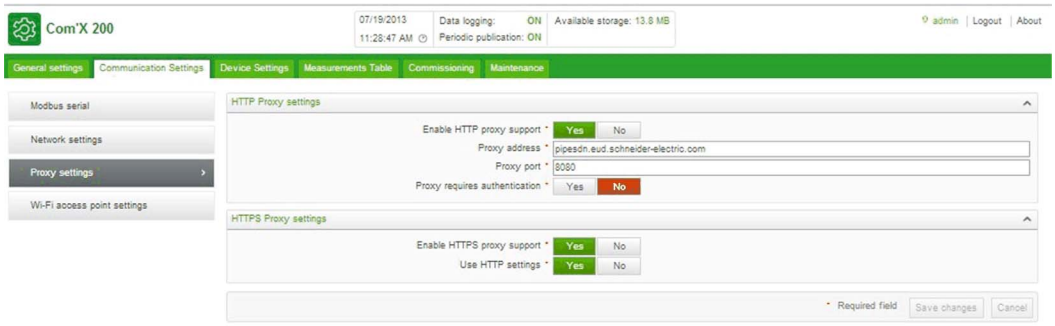
Overview

It is necessary to configure Internet proxy settings in the Com'X 200:
- if you use the HTTP or HTTPS protocols, and
- if the network administrator has implemented an Internet proxy on your local network.

Those settings are available in the **Proxy settings** subtab accessible from the **Communication settings** tab.

Description

This graphic shows the interface of proxy settings:



Follow this procedure to configure the Internet proxy settings in the Com'X 200:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Proxy settings** subtab.
3	Select the **HTTP Proxy settings** or **HTTPS Proxy settings** field.
4	Select the **Enable HTTP proxy support** check box.
5	Type the address and port of the proxy in the **Proxy address** and **Proxy port** fields.
6	If a **Proxy requires authentication** is required, select **Yes**, and provide a loggin and password to the proxy.
7	Click **Save changes**.

The proxy address and port number are provided by the network administrator or those values can be retrieved in the **Internet Options** of a PC connected to the LAN.

HTTPS Redirection

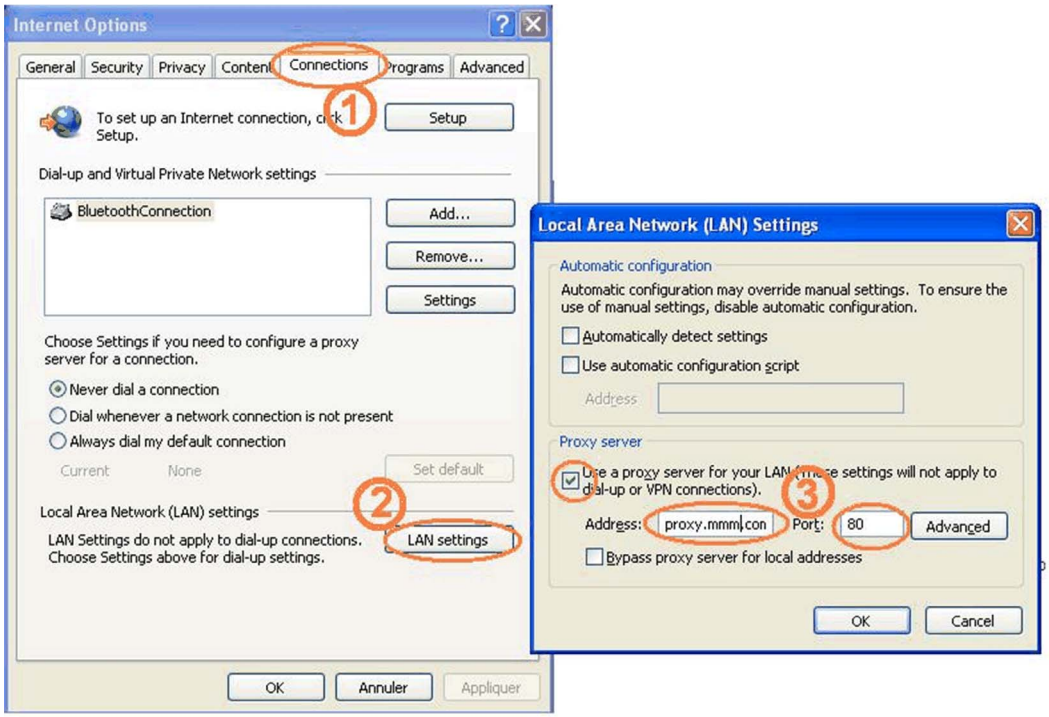
HTTPS redirection allows to secure the communication between PC and Com'X 200 and is enabled by default.

Disabling the HTTPS redirection:
- avoids your browser security check.
- reduces the security level of your local network.

NOTICE
UNAUTHORIZED ACCESS Do not disable HTTPS redirection if there is sensitive or private information on your local network. **Failure to follow these instructions can result in equipment damage.**

Retrieving Proxy Values

This graphic shows the interface to retrieve proxy values from Internet Explorer:



1 Connections tab
2 Local Area Network (LAN) settings
3 Proxy server with address and port

Follow this procedure to retrieve proxy values if using Internet Explorer:

Step	Action
1	Click the **Tools** menu.
2	Select **Internet Options** in the dropdown list.
3	Select the **Connections** tab.
4	Click the **LAN settings** button.
5	Read the values of the proxy in the **Local Area Network (LAN) Settings** window.
6	Copy the same values into the Com'X 200 proxy settings.

Section 7.4
Wi-Fi Access Point Settings

Wi-Fi Access Point Settings

Description

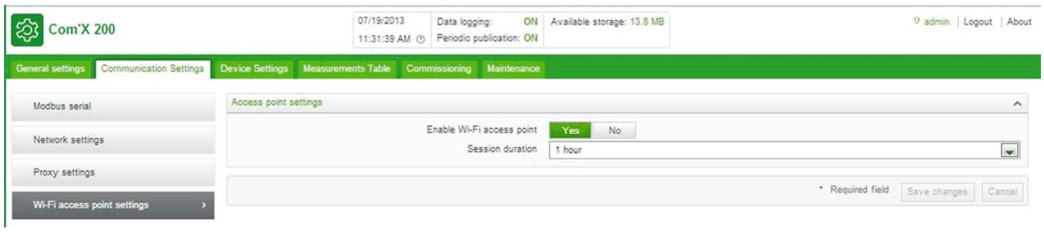
The USB Wi-Fi key can be used as a temporary communication medium during the commissioning phase. It allows you to use a laptop or a tablet to configure the Com'X 200.

In this case, communication is direct between the Com'X 200 and the laptop or tablet. The Com'X 200 functions as a Wi-Fi access point.

Wi-Fi access can be added to the Com'X 200 using a Wi-Fi USB key inserted on the front face.

Activate the Wi-Fi

This graphic shows the interface for Wi-Fi access point settings:



Follow this procedure to activate the Wi-Fi access point settings:

Step	Action
1	Click the **Communication settings** main tab.
2	Click the **Wi-Fi Access point settings** subtab.
3	Click **Yes** to **Enable Wi-Fi access point**.
4	Select the duration in the **Session duration** dropdown list (factory setting: 1 hour).
5	Click **Save changes**.

If **Session duration** is modified during a Wi-Fi access point session, the modification of duration is taken into account at the next session activation.

NOTE: This setting only enables access point mode. To start the Wi-Fi access point mode session, push the Wi-Fi button located near the USB port on the front face *(see page 19)*: . The Wi-Fi button LED flashes green.

Deactivate the Wi-Fi

To end the Wi-Fi access point session, push again the Wi-Fi button. The Wi-Fi button LED flashes orange.

Section 7.5
Gateway Access

Gateway Access

Ethernet Gateway Function of the Com'X 200

The Com'X 200 acts as a Modbus gateway for Ethernet communications from an upstream PC to Ethernet devices and field instruments on the downstream network.

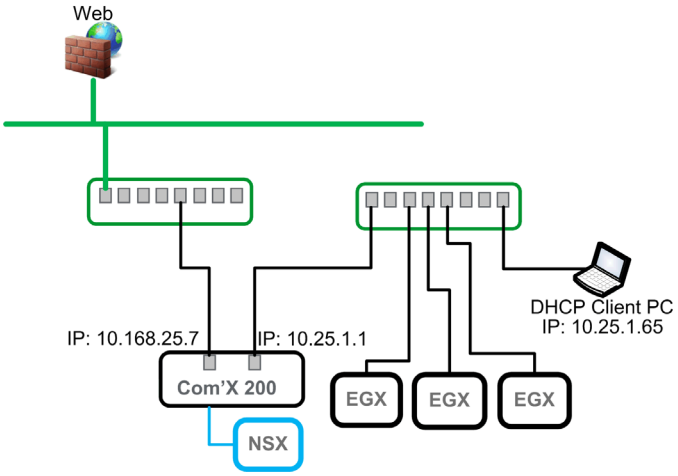
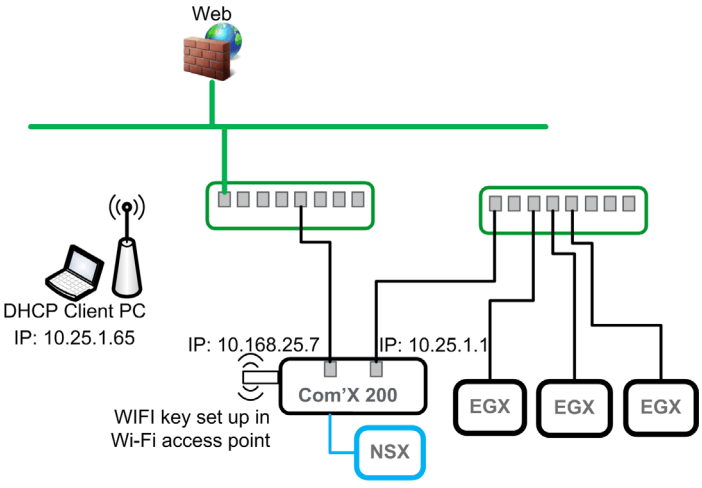
Companion Software

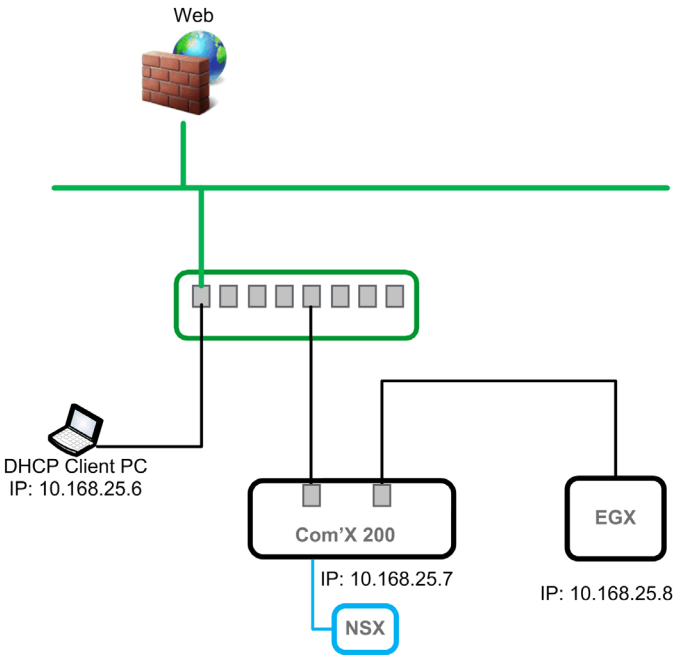
Downstream Modbus devices can be accessed from an upstream PC running a software application. Recommended software applications offered by Schneider Electric include:

- Remote Setting Utility software for Masterpact and Compact NSX
- StruxureWare Power Monitoring Expert software

Using the Com'X 200 as a Modbus Gateway

The connection between the DHCP client PC and the Com'X 200 depends on network setting mode, as indicated below:

Network Setting	Design
2 separate ports	If the Com'X 200 does not include a Wi-Fi key: 
	If the Com'X 200 includes a Wi-Fi key and has been configured as a Wi-Fi access point *(see page 62)*: 

Network Setting	Design
2 switched ports	

Chapter 8
Device Settings

Overview

This chapter describes how to manage devices (add, modify, and remove) and view their settings.

NOTE: Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
8.1	General Overview	66
8.2	Devices that Can Connect to Digital Inputs	76
8.3	Devices that Can Connect to Analog Inputs	79
8.4	Modbus Devices	82
8.5	Ethernet Devices	89

Section 8.1
General Overview

What Is in This Section?

This section contains the following topics:

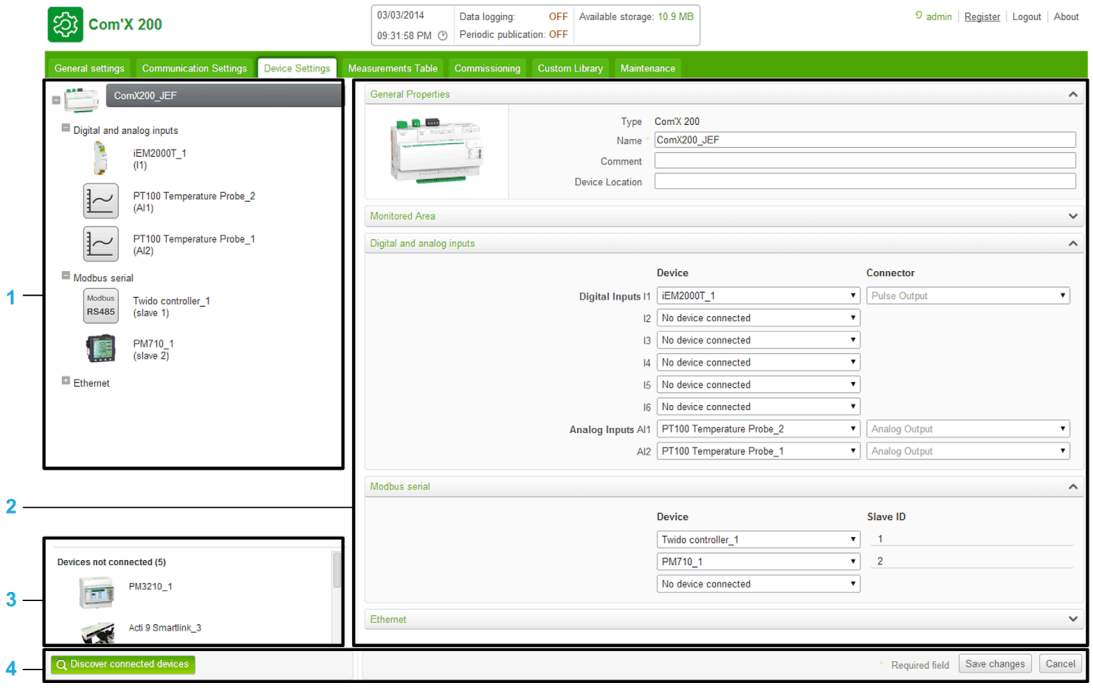
Topic	Page
Overview	67
Managing Devices	69
Measurement and Metadata Exported Per Hosted Platform	71
Common Properties	72

Overview

Presentation

Built-in devices supported by the Com'X 200 are listed in appendix B *(see page 140)*. You can also create custom models that are based on custom model types, which have been added to the **Custom Library**.

This graphic shows the **Device settings** interface that defines the devices connected to the Com'X 200, for example, Ethernet gateways, Modbus meters, pulse meters, or analog sensors:



1 Device tree view
2 Device properties
3 Disconnected devices
4 Action buttons

Device Tree View

The device tree view represents the communication architecture of the installation. The Com'X 200 is always at the top of the tree. Devices are grouped by their connection interfaces: Ethernet ports, Modbus port, digital inputs, and analog inputs.

For digital and analog inputs, each device appears with its **Name** and the input number to which it is connected.

NOTE: The multiple, different output of a main meter (for example, kWh, kVArh pulses) can be connected to several digital inputs.

For Modbus TCP/Modbus serial line gateway, each device appears with its **Name** and its **Slave ID**.

Click a device to display its properties in **General Properties**.

Disconnected Devices

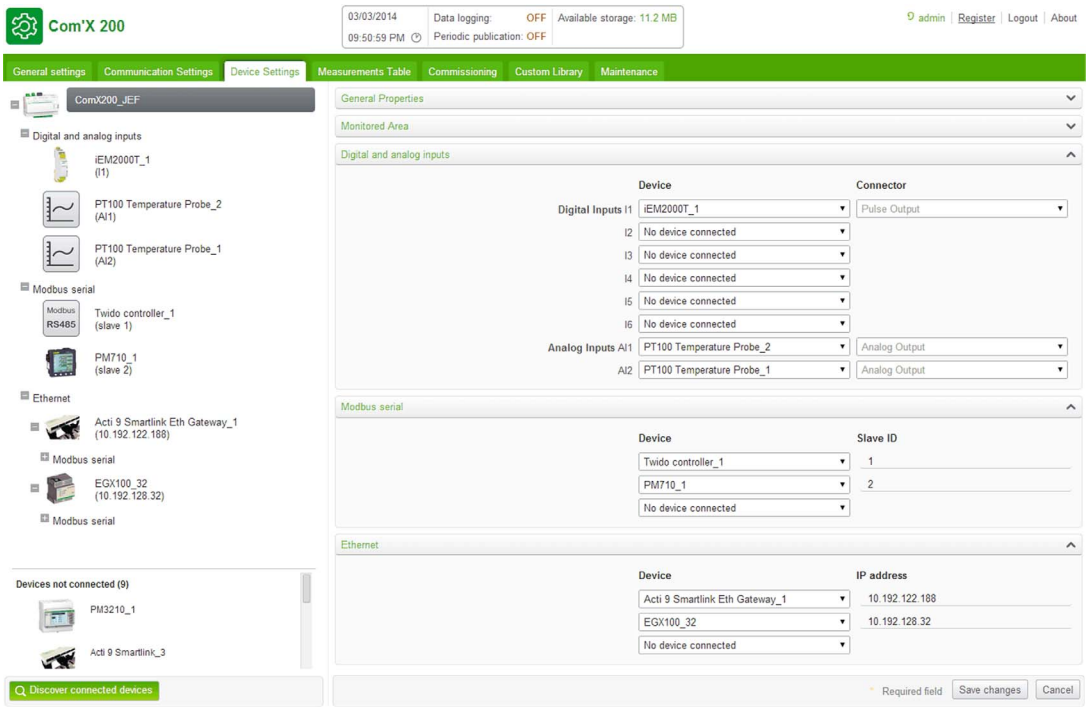
This area displays the devices that are not connected to the installation. Measurements from these devices are not logged.

Device Properties

For a selected device, this zone allows you to:

- define some metadata such as the name, the physical location and, for a meter, the commodity, the energy usage, and the area in the building that is being monitored.
- set up or modify settings such as:
  - the pulse weight for a pulse meter
  - the slave ID for a Modbus meter
  - the IP address for a gateway
  - the measurements to be published to the selected hosted platform.
- connect and disconnect downstream devices in the dropdown lists when the selected device allows it. Each connection type has its own area. Only devices that can be connected to this type are listed.

This graphic shows the interface of device properties:



Action Buttons

This table describes the interface buttons:

Button	Action	Availability
Discover connected devices	Launches a Modbus device discovery and automatically retrieves devices that are connected downstream.	Enabled when the Com'X 200 or Ethernet gateway is selected.
Delete	• Removes the selected device. • Moves or deletes the devices connected downstream to the **Disconnected devices** area.	Enabled when a device is selected.
Save changes	Validates the modifications.	Disabled when: • there is no change in the web page. • mandatory fields are left blank. Those fields are highlighted in red. • inappropriate characters are entered in a field. This field is highlighted in red.
Cancel	Cancels the modifications to return to the last saved settings.	–

Managing Devices

Adding a Downstream Device

Follow this procedure to add a downstream device:

Step	Action
1	Click the **Device settings** main tab.
2	In the device tree view, click the upstream device to which the downstream device must be connected. For example, select the Com'X 200 to connect a device to the Com'X 200.
3	Click the collapsible menu that corresponds to the type of device to be connected: ● **Digital and analog inputs** collapsible menu for devices connected to the Com'X 200 digital and analog inputs, for example, pulse meters or analog sensors. ● **Modbus Serial** collapsible menu for a Modbus device. Modbus can also be automatically discovered with the **Discover connected devices** button *(see page 35)*. ● **Ethernet** collapsible menu for a Modbus TCP/Modbus serial line gateway.
4	Select **Create a new device** in the **Device** dropdown list.
5	Select the type of device to be created in the **Device Type** dropdown list. Only the devices that can be connected to this interface are listed. You cannot modify the device type after the device has been created.
6	Configure the device. Refer to the sections that correspond to the device category: digital input *(see page 33)*, analog input *(see page 34)*, and Modbus serial device *(see page 35)*.
7	Click **Create** and the device appears in the device tree view.

Modifying a Device

Follow this procedure to modify a device setting:

Step	Action
1	Click the **Device settings** main tab.
2	Click the device in the device tree view.
3	Modify the settings in the required collapsible menu.
4	Click **Save changes**.

NOTE: The device type cannot be modified. If a device is incorrectly configured, delete the device and create a new one.

Disconnecting a Device

Follow this procedure to disconnect a device from an upstream device:

Step	Action
1	Click the **Device settings** main tab.
2	Click the parent device in the device tree view.
3	Select **No device connected** in the **Connected to** dropdown list. The device appears in the **Devices not connected** collapsible menu under the device tree view.
4	Click **Save changes**.

NOTE: The device does not appear in the **Measurements Table**. No measurement from this device is sent to the hosted platform.

Reconnecting a Device

Follow this procedure to reconnect a device from an upstream device:

Step	Action
1	Click the **Device settings** main tab.
2	In the device tree view, click the upstream device to which the downstream device must be connected. For example, select the Com'X 200 to reconnect a device to the Com'X 200.
3	In the **Digital and analog input** collapsible menu, select the device to be reconnected on the required digital input.
4	Click **Save changes**.

Replacing a Device

Follow this procedure to replace an existing device by another device of a similar type. This procedure can be used to replace a standard device by a custom device without losing the properties of the original device:

Step	Action
1	Click the **Device settings** main tab.
2	In the device tree view, click the upstream device to which the device to be replaced is connected. For example, select the Com'X 200 to replace a device connected to the Com'X 200.
3	Click the collapsible menu that corresponds to the type of device to be replaced: ● **Digital and analog inputs** collapsible menu for devices connected to the Com'X 200 digital and analog inputs, for example, pulse meters or analog sensors. ● **Modbus Serial** collapsible menu for a Modbus device. Modbus can also be automatically discovered with the **Discover connected devices** button *(see page 35)*. ● **Ethernet** collapsible menu for a Modbus TCP/Modbus serial line gateway.
4	Select the device you want to replace. **NOTE:** Select a replacement device that is of the same (or similar) type and that supports the same published measurement data as the original device.
5	Click **Replace** at the bottom of the **Device settings** main tab. The **Replace device** dialog opens.
6	In the **Replace device** dialog: ● select the replacement device type ● click **Replace** **NOTE:** When you replace an existing device, the replacement device will display the previous device **Name**, unless you edit the name.
7	If necessary, edit the **Name** and other settings for the replacement device, then click **Save changes** at the bottom of the **Device settings** main tab.

Deleting a Device

Follow this procedure to delete a device:

Step	Action
1	Click the **Device settings** main tab.
2	Click the device to be deleted in the device tree view.
3	Click **Delete** to confirm the deletion of the device.

Measurement and Metadata Exported Per Hosted Platform

Overview

This table summarizes the exported data per hosted platform:

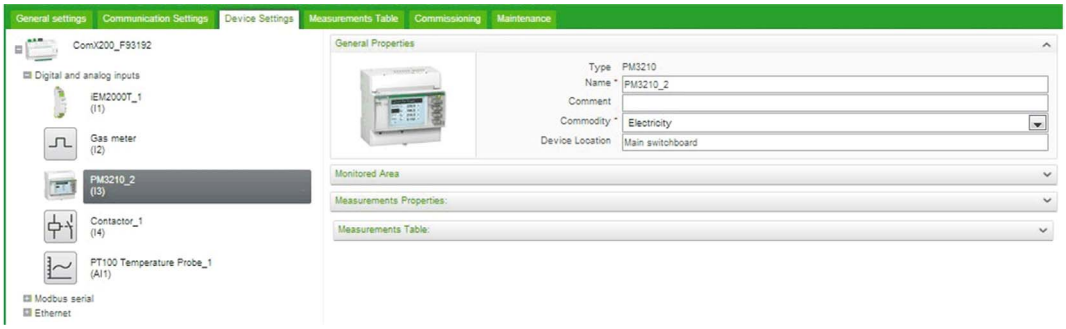
Measurement/Metadata	Energy Operation	Energy Online	CSV Export	Remote Service Platform
Customer ID	–	X	–	–
Site name	X	X	X	X
Device name	X	X	X	X
Selected measurement	X	X(1)	X	X
Commodity	X	X	–	X
Monitored area parameters				
Building	X	X	–	X
Floor	X	–	–	X
Zone	X	–	–	X
Usage	X	–	–	X
(1) Only the measurement supported by Energy Online is published.				

Common Properties

General Properties

All devices have a set of general properties that includes **Type**, **Name**, **Comment**, **Commodity**, and **Device Location**.

This graphic shows the interface of the general properties:



This table presents the general properties of the Com'X 200:

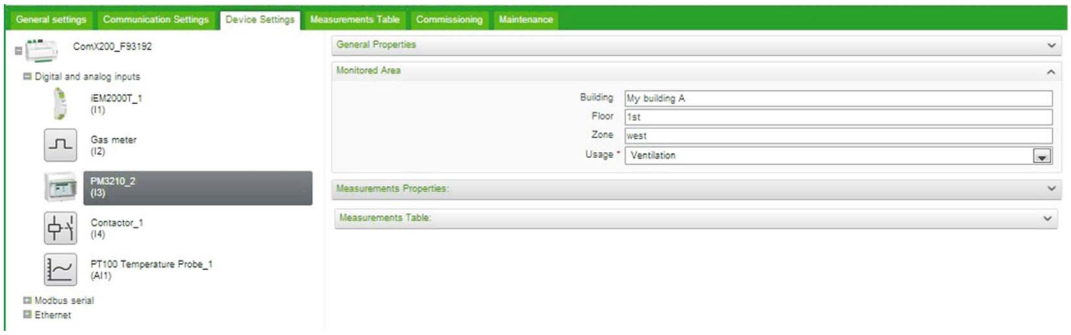
Field	Description	Comments
Type	Corresponds to the device type that is selected.	This field is automatically assigned by the Com'X 200 and cannot be modified.
Name	Corresponds to the name of the device.	This field must not include the following characters: /:*?< >| or space.
Comment	Allows you to type additional information.	–
Commodity	Corresponds to the type of measurements.	This field is available only for meters or sensors. The logging interval of measurements is set according to the value defined in Defining the logging intervals *(see page 42)*.
Device location	Defines where the device is physically installed.	For example: ● main low voltage switchboard for an electric meter ● boiler room for a gas meter ● outdoor north front for a temperature probe

The device name is used to create and identify the device in **Energy Operation** and **Energy Online**:

- The device name is associated with a measurement to create the meter in **Energy Operation**. For example, the active energy measurement for a PM3250 named `Ventilation Q01` creates a meter `Ventilation Q01_Active Energy`.
- The device name corresponds to the **Recorder name** in **Energy Online**.

Monitored Area Presentation

The graphic shows the monitored area interface:

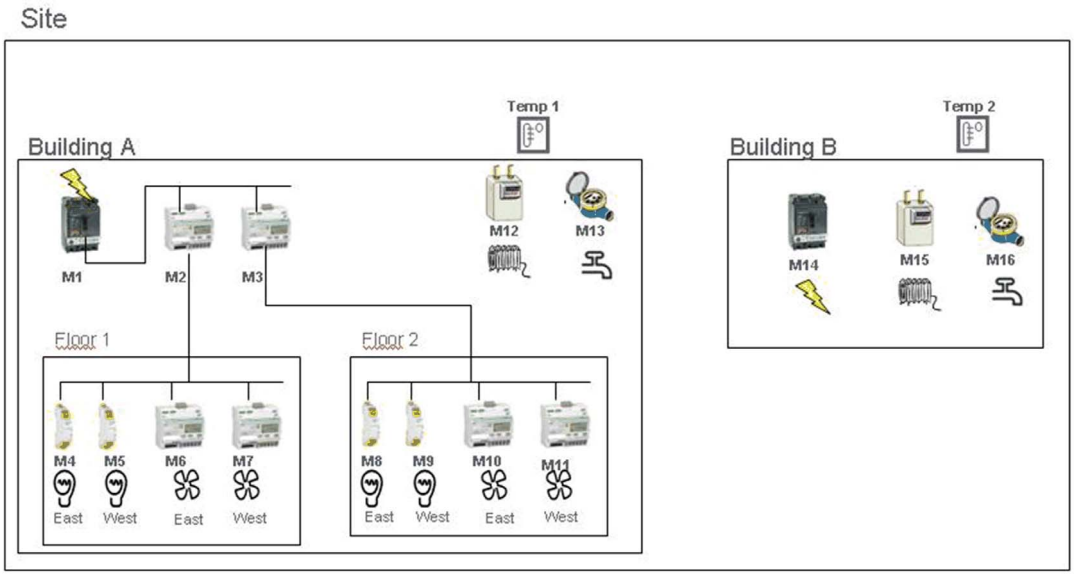


This area enables you to define the building area measured by the meter or sensor. A site can be made up of several buildings. Each building can have several floors. Each floor can be made up of several zones. The site topology is defined by entering values in the **Building**, **Floor**, and **Zone** fields.

NOTE: To type a floor name, you must enter a building name first. To type a zone name, you must enter a floor name first.

Monitored Area Example

This example describes how to define the name of the buildings, floors, zones, and usage for the meters or sensors of a site made up of 2 buildings:



This table shows naming examples for the different fields of the **Monitored Area** collapsible menu:

		Monitored Area			
Meter/Sensor	**Device Location**	**Building**	**Floor**	**Zone**	**Usage**
M1	Main switchboard	Building A	–	–	Main meter
M2	Main switchboard	Building A	1st	–	Submeter
M3	Main switchboard	Building A	2nd	–	Submeter
M4	Distribution board 1	Building A	1st	East	Lighting
M5	Distribution board 1	Building A	1st	West	Lighting
M6	Distribution board 1	Building A	1st	East	Ventilation
M7	Distribution board 1	Building A	1st	West	Ventilation
M8	Distribution board 2	Building A	2nd	East	Lighting
M9	Distribution board 2	Building A	2nd	West	Lighting
M10	Distribution board 2	Building A	2nd	East	Ventilation
M11	Distribution board 2	Building A	2nd	West	Ventilation
M12	Boiler room	Building A	–	–	Heating
M13	Outdoor	Building A	–	–	Main meter
Temp1	Outdoor north front	Building A	Outdoor	–	Other
M14	Main switchboard	Building B	–	–	Main meter
M15	Boiler room	Building B	–	–	Heating
M16	Outdoor	Building B	–	–	Main meter
Temp2	Outdoor north front	Building B	Outdoor	–	Other

NOTE:

- **Energy Operation** retrieves this information from the Com'X 200 to create the metering site architecture.
- In **Energy Online**, the name entered in the **Building** field is combined with the Site Information *(see page 40)* to create the **Energy Online** `AccountID` and `AccountName`.

For example, if:

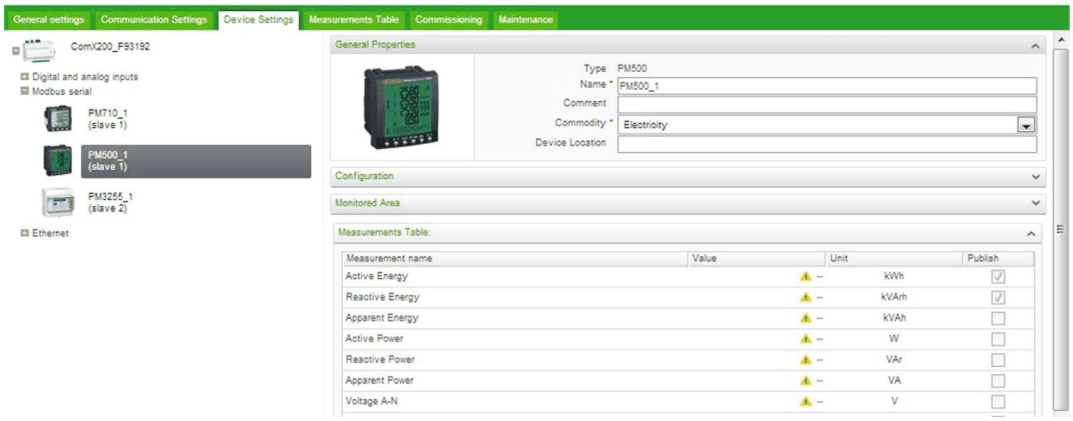
- Customer ID = `Customer 1`
- Site name = `My site`
- Building name = `Building A`

The `AccountName` `Customer 1-My site Building A` is created in **Energy Online**. Meters or sensors with `Building A` in the building name field are assigned to this account.

If the building name of the meter device is not provided in the **Monitored Area** *(see page 73)*, the `AccountName` `Customer 1-My site` is created and the meter is assigned to this account.

Selecting Measurement to Publish

This graphic shows the measurement table interface:



Follow this procedure to select the measurement to publish to the platform:

Step	Action
1	Click the **Device settings** main tab.
2	Click the meter or sensor in the device tree view.
3	Click the **Measurements Table** collapsible menu.
4	Select the **Publish** check box of the measurement to be published.
5	Click **Save changes**.

Factory Settings of the Measurement Table

These measurements are selected:

Device Type	Measurement
Pulse meter	Index
Contactor/Impulse relay	Status Run hours
Electric utility meter	Active energy Reactive energy
Power meter	Active energy Reactive energy
Resistance Temperature Detector (RTD)	Temperature
0–10 V/4–20 mA analog sensors	Analog value

Notification Icons

: this icon indicates that no measurement can be retrieved from this device.

: this icon indicates that the device is no longer communicating and that the displayed values are old.

Section 8.2
Devices that Can Connect to Digital Inputs

Overview

Devices with digital inputs are: the Com'X 200, the Smartlink, and the SIM10M.

What Is in This Section?

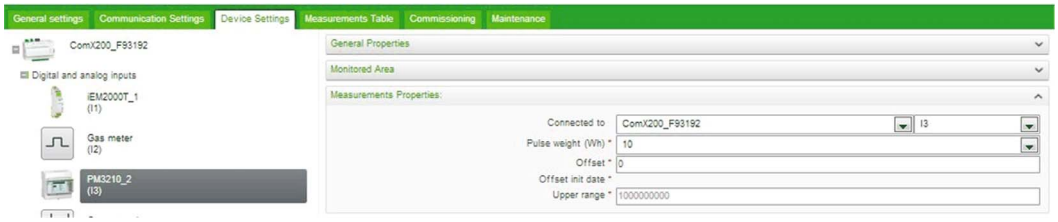
This section contains the following topics:

Topic	Page
Built-in Pulse Meters	77
Custom Pulse Meters	78

Built-in Pulse Meters

Measurement Properties

This graphic shows the interface of the measurement properties of a built-in Schneider Electric pulse meter:

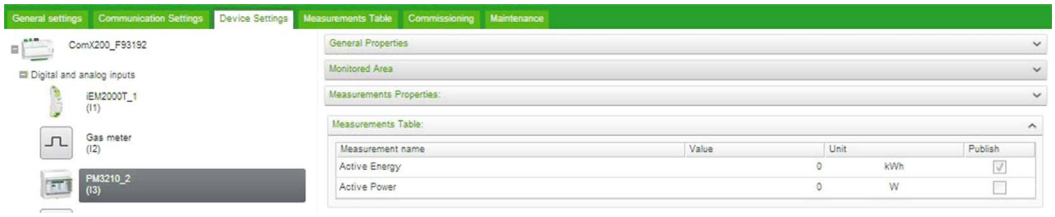


This table describes the measurement properties of a built-in Schneider Electric pulse meter:

Field	Description	Comment
Connected To	Displays the upstream device and the digital input number to which the device is connected. The digital input number can be modified. Only the available digital inputs of the upstream device are listed.	The device can be disconnected by selecting **No device connected** in the list of upstream device. From this list, it is not possible to change from 1 upstream device to another.
Pulse weight	The active energy counter increases by this value each time a pulse is received. The list is restricted to the values that correspond to the selected meter type.	The value cannot be modified if there is only 1 possible pulse weight, for example with the iEM2000T meter.(1)
Offset	Sets an offset for the active energy. The value can be positive or negative.	Enables you to start the counter with the value that can be read on the meter display.
Upper Range	Defines when the active energy counter rolls back to zero.	The counter sets back to zero when it reaches the entered value.
(1) Refer to the specific pulse meter documentation for further information.		

Measurement Table

This graphic shows the interface of the measurement table for a Schneider Electric pulse meter:



The active power is calculated according to the frequency of received pulses.

Custom Pulse Meters

Adding Custom Pulse Meters

You can add a pulse meter that is based on a custom pulse meter model. Before adding a custom device, you first need to create the custom model *(see page 98)* in the **Custom Library**.

Section 8.3
Devices that Can Connect to Analog Inputs

Overview

The devices with analog inputs are the Com'X 200 and the SIM10M.

What Is in This Section?

This section contains the following topics:

Topic	Page
Built-in Resistance Temperature Detectors	80
Custom Analog Devices	81

Built-in Resistance Temperature Detectors

Measurement Properties

The Pt100/Pt1000 Resistance Temperature Detectors (RTD) are sensors used to measure temperature by correlating the resistance of the RTD element with temperature.

The RTD can only be connected to the analog inputs of the Com'X 200.

Temperature ranges from –50 °C (–58 °F) to +104 °C (219 °F).

When connecting an RTD probe to the Com'X 200, there are no specific parameters to configure.

Measurement Table

By default, the temperature is logged and published to the hosted platform.

Custom Analog Devices

Adding Custom Analog Devices

You can add an analog device that is based on a custom analog device model. Before adding a custom device, you first need to create the custom model *(see page 98)* in the **Custom Library**.

Section 8.4
Modbus Devices

What Is in This Section?

This section contains the following topics:

Topic	Page
Modbus Discovery Function	83
Adding a Modbus Device Manually	85
Modbus Meter Measurements	86
Acti 9 Smartlink	87
Smart Interface Module	88

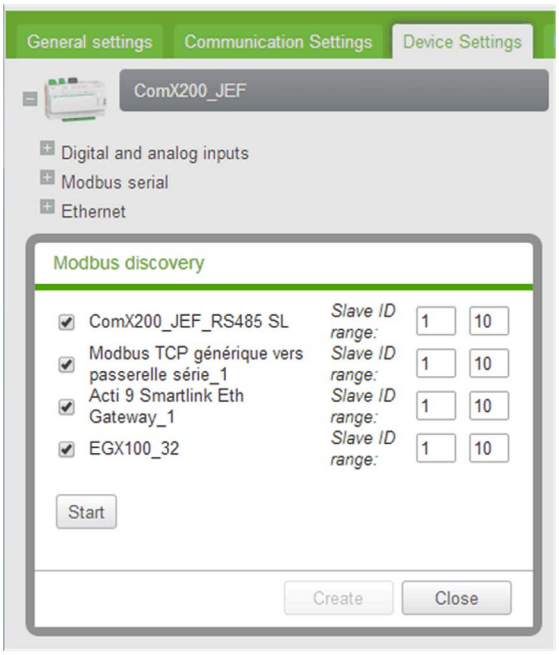
Modbus Discovery Function

Description

With the **Modbus discovery function**, the Com'X 200 can discover the devices that are locally connected to their Modbus serial port and downstream Modbus TCP/Modbus serial line gateways.

Discover Connected Devices

This graphic shows the **Modbus Discovery** interface:

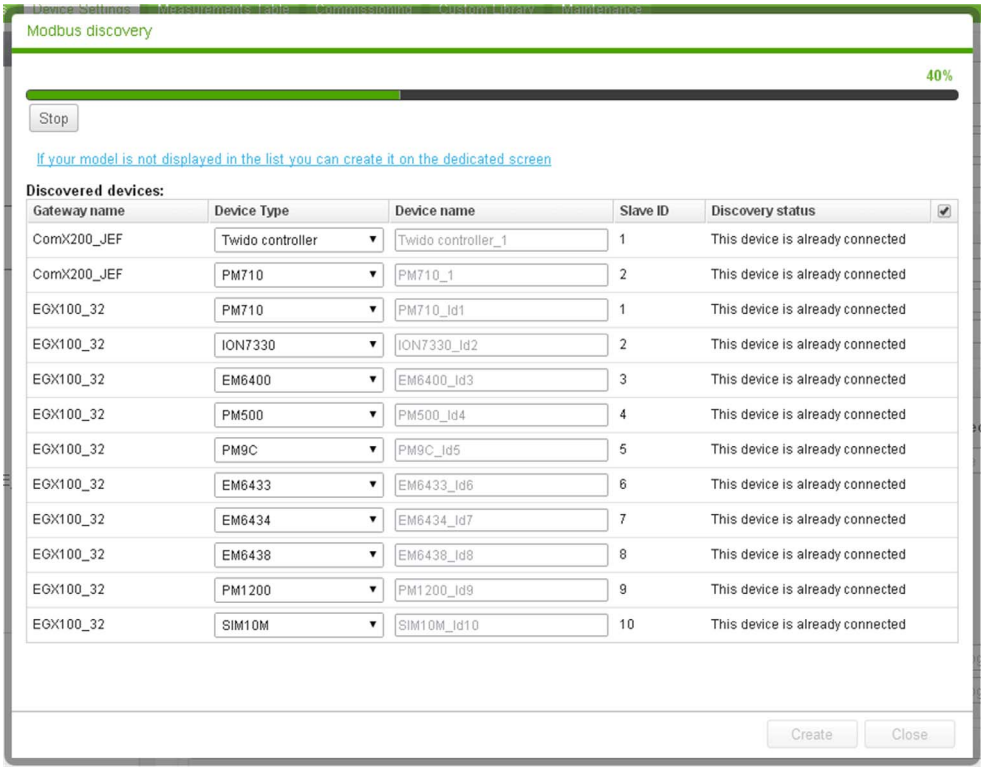


Follow this procedure to discover connected Modbus devices:

Step	Action
1	Click the Com'X 200 in the device tree view. Click the gateway in the device tree view to discover only the downstream devices connected to a gateway such as an EGX.
2	Click **Discover connected devices** to open the **Modbus Discovery** window. **NOTE:** By default, the discovers all the connected devices with **Slave IDs range** from 1 to 10 for all Modbus serial ports that are present in the installation Optional: Modify the start/stop addresses for each Modbus serial port (default: 1…10)
3	Click **Start** to discover the devices. Discovered devices are listed in the **Modbus Discovery** window. Click **Stop** if you want to stop the **Modbus Discovery** process.
4	Click **Create** to close the **Modbus Discovery** window. All the discovered devices appear in the device tree view, as follows: ● If a device was created using a built-in model, the application automatically associates the device with the appropriate built-in model. ● If a device was created from a custom model that was added to the Custom Library *(see page 97)*, the application associates the device with the first model in the custom device list. In this case, you need to select the appropriate custom model for the device in the device type list.

Modbus Discovered Status

This graphic presents the interface when the device status is discovered:



This table presents the discovered status of the device:

Message	Description
OK	The device is discovered and supported by the Com'X 200.
This device is already connected	The device has been discovered from a previous **Modbus discovery** or by manual entry. It is supported by the Com'X 200.
Unknown device	The device has been discovered but it is not supported by the Com'X 200. This occurs if the device is a custom device, and no custom models have been created in the **Custom Library**.
No device discovered	No device is connected to this Modbus address (slave ID).

NOTE: Refer to Modifying a Device *(see page 69)* to change the device settings.

Adding a Modbus Device Manually

Overview

Modbus devices that are not connected cannot be discovered, but they can be added manually using the following procedure. You can add either a built-in Modbus device or a custom Modbus device that you have previously created in the **Custom Library**.

Description

This graphic presents the interface when adding a Modbus device manually:

Follow this procedure to add a Modbus device manually:

Step	Action
1	Click the **Device settings** main tab.
2	Select the upstream device with a Modbus serial port in the device tree view. For example, the Com'X 200 must be selected to connect a Modbus device to the Com'X 200.
3	Select the **Modbus Serial** collapsible menu. Click the header to expand the **Modbus Serial** collapsible menu.
4	Click **Create a new device** in the **Device** dropdown list.
5	Select a **Device Type** in the dropdown list. Only the devices that can be connected to a Modbus serial port are listed.
6	Type the **Slave ID** in the **Configuration** collapsible menu. Refer to the sections General Properties *(see page 72)* and Monitored Area *(see page 73)* for completing the other parameters.
7	Click **Create** and the device appears in the device tree view.

Modbus Meter Measurements

Built-in Device Measurements

When available, the retrieved measurements of a Schneider Electric Modbus meter are:

- total active energy
- active energy per phase
- total reactive energy
- reactive energy per phase
- total apparent energy
- active power
- reactive power
- apparent power
- phase-neutral voltages
- phase-phase voltages
- phase and neutral currents
- frequency
- power factor
- total harmonic distortion

Additional Measurements for Built-in Devices

For additional measurements, you need to create a new model of the device based on an existing built-in device and customize it to your needs. See the topic Creating a Custom Model *(see page 98)*. Refer to the data sheet of the specific meter to identify which Modbus registers correspond to the measurement required.

Refer to the procedure Replacing a Device *(see page 70)* for instructions on how to replace a built-in device with a custom one

Acti 9 Smartlink

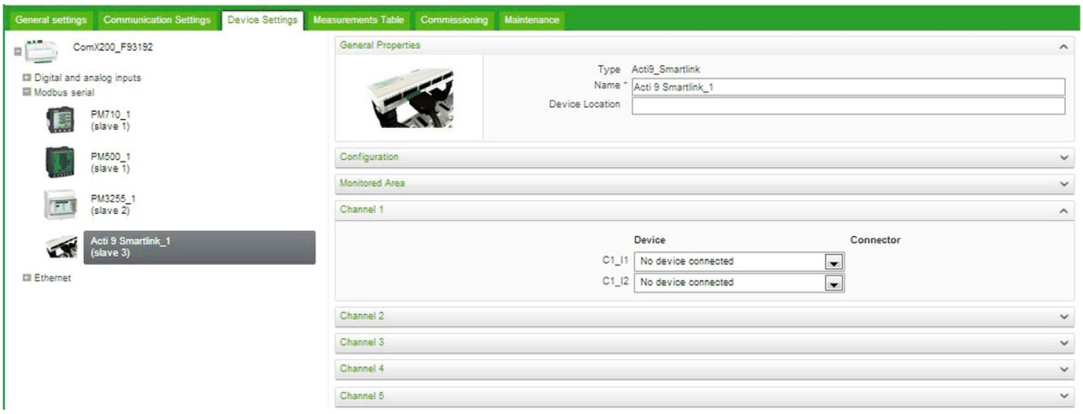
Description

The Acti 9 Smartlink is a remote I/O module. It transmits data from an Acti 9 System to the Com'X 200, the EGX100, or the EGX300 via the Modbus serial line communication network.

The Acti 9 Smartlink is made up of 11 channels. Each channel includes 2 digital inputs and 1 digital output.

Connecting Devices to Acti 9 Smartlink

This graphic presents the general properties interface for connecting devices to the Acti 9 Smartlink:



Follow this procedure to connect devices to the Acti 9 Smartlink:

Step	Action
1	Click the **Device settings** main tab.
2	Click the Smartlink in the device tree view.
3	In the **General Properties** collapsible menu, select the channel (C1, C2, and so on) to which the device has to be connected. Click the header to expand the channel area.
4	Select **Create a new device** in the chosen dropdown list. The 2 dropdown lists correspond to the C1_I1 or C1_I2 digital inputs.
5	Select the type of device to be created in the dropdown list. Only the devices that can be connected to this interface are listed: Schneider Electric pulse meters, utility meters, contactors, and impulse relays.
6	Configure the device. Refer to the sections that correspond to the specific device category. *(see page 76)*
7	Click **Create** and the device appears in the device tree view downstream from the Smartlink.

NOTE: If using the prefabricated cable associated to the contactor iACT24 or impulse relay iATL24, the device must be connected on the digital input 1 of the channel. This input provides the status of the device.

Smart Interface Module

Description

A Smart Interface Modules (SIM) is an Intelligent Electronic Device (IED) used in energy efficiency applications. It provides local physical interfaces with building WAGES meters, sensors, and actuators. It communicates through wired networks with remote monitoring systems.

SIMs communicate with the Com'X 200 and the EGX gateways using Modbus RS-485 wired protocol.

Characteristics

This list presents SIM10M characteristics:

- wired Modbus RS-485 connection to gateway in slave mode
- 6 digital inputs: DI0, DI1, DI2, DI3, DI4, and DI5
- 2 digital outputs: DO0 and DO1
- 2 analog inputs (0–10 V): AI0 and AI1

Connecting Devices to a SIM10M

Refer to Devices Connectable on Digital Inputs *(see page 76)* and Devices Connectable on Analog Inputs *(see page 79)* for adding devices in the software.

NOTE: Only 0–10 V analog sensors can be connected to the analog inputs of a SIM10M.

Section 8.5
Ethernet Devices

What Is in This Section?

This section contains the following topics:

Topic	Page
Built-in Ethernet Devices	90
Custom Ethernet Devices	91

Built-in Ethernet Devices

Overview

In the system, you can add these devices:

- Modbus TCP/IP to Modbus serial line gateways: EGX100, EGX300, and PM8ECC (Ethernet card). These gateways are used to collect data from serial devices.
- Modbus TCP/IP meters: PM810ECC, PM820ECC, and PM870ECC.
- Custom Modbus TCP/IP to serial gateway: This is used to collect data from serial devices.

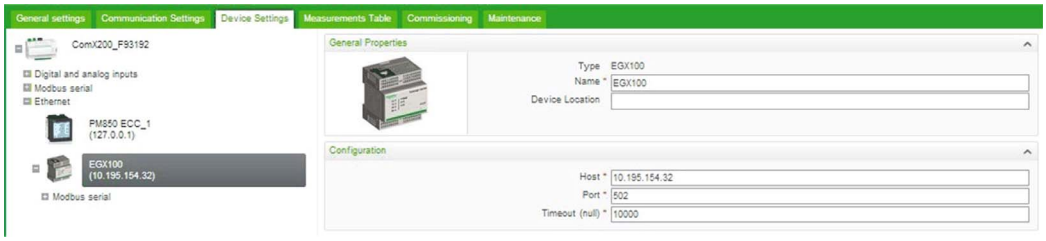
NOTE:

To collect data from a PM800 series meter with an Ethernet card and use this PM800 as a gateway, you must define 2 devices:

- The meter: for example PM850ECC
- The gateway: PM8ECC Ethernet Modbus gateway

Configuration Parameters

This graphic presents the interface to configure Ethernet devices:



This table shows how to configure Ethernet devices:

Field	Description	Comment
Host	Defines the IP address of the device.	–
Port	Defines the port number.	502 is used for Modbus.
Slave ID	Gives the address only for Modbus TCP meters or devices.	Enter: ● 1 for PM800 series meters. ● 0 for custom Modbus TCP/IP device.
Timeout (ms)	Defines the time the Com'X 200 has to wait before detecting an error for an unanswered Modbus or gateway request.	The factory setting is: ● 3000 ms for the Modbus TCP device ● 10000 ms for the gateway

Custom Ethernet Devices

Adding Custom Ethernet Devices

You can add an Ethernet device that is based on a custom Ethernet model. Before adding a custom device, you first need to create the custom model *(see page 98)* in the **Custom Library**.

Chapter 9
Measurements Table

Measurements Table

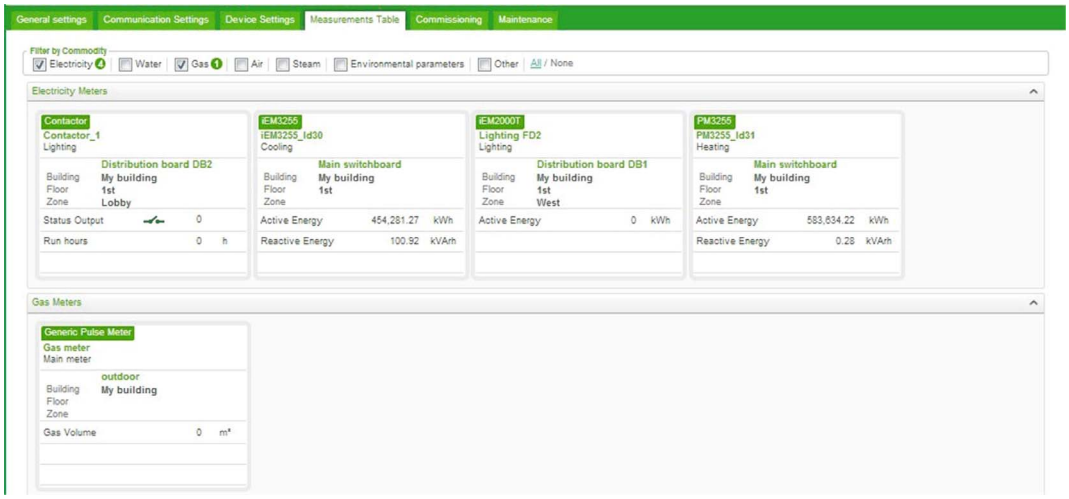
Overview

The **Measurements Table** allows you to view all the meters and sensors of the system that log and publish data.

Only the data that has been selected for publication is present in the **Measurements Table**.

Description

This graphic presents the interface of the **Measurements Table**:



Follow this procedure to view all the meters and sensors:

Step	Action
1	Click the **Measurements Table** main tab.
2	Select the required meters in the **Filter by commodity** field: ● Click **All** to visualize all the commodities at the same time. ● Click **None** to hide all the commodities at the same time. ● Check the corresponding check box to view all the measurements of a commodity. ● Uncheck the corresponding box to hide all the measurements of a commodity.

NOTE: Meters are grouped by commodity.

Chapter 10
Commissioning

Commissioning

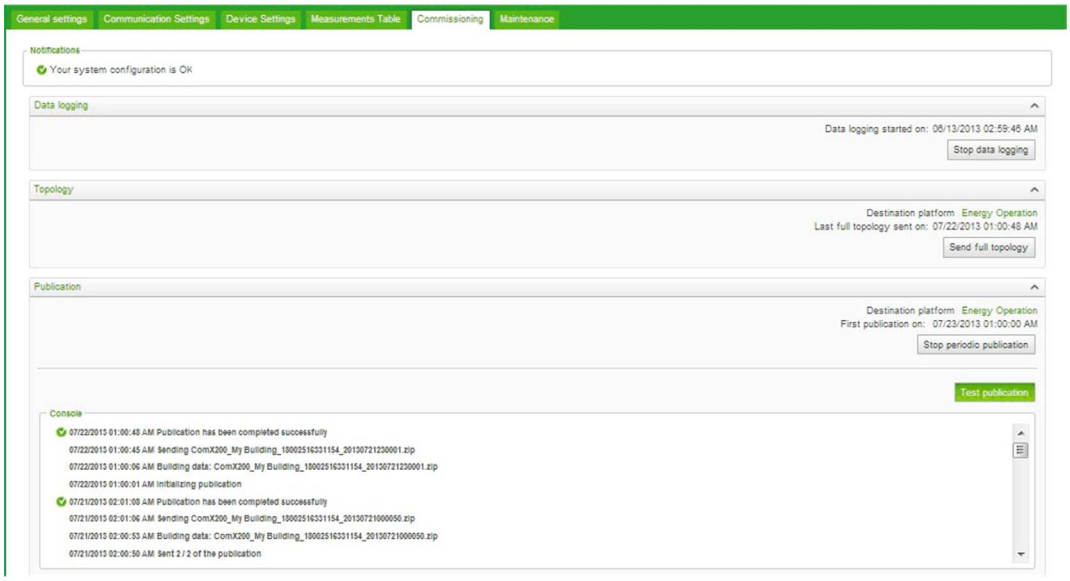
Overview

The **Commissioning** main tab enables you to:

- check that configuration is completed.
- start/stop data logging.
- send the metering architecture to **Energy Operation**. This option is available only if **Energy Operation** is selected as the publication platform.
- export the logged data manually to the selected hosted platform.
- start the periodic publication of data to the selected hosted platform.

Description

This graphic presents the commissioning interface:


General settings
Communication Settings
Device Settings
Measurements Table
Commissioning
Maintenance
Notifications
Your system configuration is OK
Data logging
Data logging started on: 06/13/2013 02:59:46 AM
Stop data logging
Topology
Destination platform: Energy Operation
Last full topology sent on: 07/22/2013 01:00:48 AM
Send full topology
Publication
Destination platform: Energy Operation
First publication on: 07/23/2013 01:00:00 AM
Stop periodic publication
Test publication
Console
07/22/2013 01:00:48 AM Publication has been completed successfully
07/22/2013 01:00:45 AM Sending ComX200_My Building_1800251633115 4_20130721230001.zip
07/22/2013 01:00:06 AM Building data: ComX200_My Building_1800251633115 4_20130721230001.zip
07/22/2013 01:00:01 AM Initializing publication
07/21/2013 02:01:08 AM Publication has been completed successfully
07/21/2013 02:01:06 AM Sending ComX200_My Building_1800251633115 4_20130721000050.zip
07/21/2013 02:00:53 AM Building data: ComX200_My Building_1800251633115 4_20130721000050.zip
07/21/2013 02:00:50 AM Sent 2 / 2 of the publication

This table shows commissioning displays:

Field	Description	Comment
Notifications	Displays the status of the configuration procedure.	If any requested field or parameters are missing, a link to the corresponding tab is displayed. Click the link to be redirected to the tab.
Data logging	Displays a button to start data logging. The date and time of the first logging are displayed.	The button is disabled if: ● the configuration is not complete. ● there is no selected data to be logged.
Topology(1)	Sends the metering architecture to **Energy Operation**. It creates the metering hierarchy in **Energy Operation**. This option is available only if **Energy Operation** is selected as the publication platform.	If the topology has not been sent to **Energy Operation**, all measurements will appear under the site named Site Newmeters in **Energy Operation**.
Publication(2)	Allows you to export the logged data manually to the hosted platform.	Click the **Test publication** button to send data to the hosted platform.(3) Click the **Start periodic publication** button to send data to the hosted platform according to the frequency set in **Publication settings**.
Status	Displays the successive steps with the corresponding status when the publication is launched: from the construction of the data file to the delivery of the file on the database server.	Refer to the maintenance logs *(see page 116)* if an error occurs during publication.

(1) If you change the topology of the Com'X 200 or modify the Com'X 200 configuration adding some measurement values or meters after the first publication, do not use the **Send Topology** button, contact the local Schneider Electric technical support.

(2) When publishing to **Energy Online**, confirm that you have selected the correct logging interval before pressing the **Test publication** or **Start periodic publication** buttons. New values after the modification of the logging time period are not displayed. In case of accidental change after publishing, contact the local Schneider Electric technical support.

(3)When using RSP, do not start the publication until you receive the "Connected to the destination platform" status from RSP platform in the publication menu.

Chapter 11
Custom Library

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Creating a Custom Model	98
Creating a Custom Modbus Device	99
Creating a Custom Main Meter Model	103
Creating a Custom Pulse Meter Model	107
Creating a Custom KYZ Pulse Meter Model	109
Creating a Custom Contactor or Impulse Relay	110
Creating a Custom Analog Sensor Model	111
Working with Custom Models	113

Creating a Custom Model

Overview

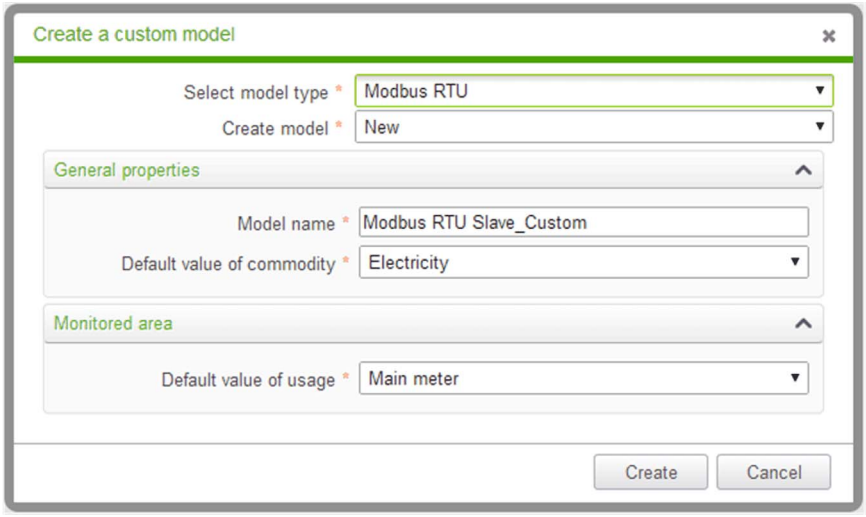
The Com'X 200 supports the use of custom models. A custom model is any model other than a **Built-in** model from Schneider Electric. To use a custom model, you must first create a new custom model. A custom model can be:

- based on a pre-existing Schneider Electric model *(see page 140)*
- based on a previously created custom model
- an entirely new model

If you base a custom model on a pre-existing Schneider Electric model or a previously created custom model, the new model inherits the properties of the underlying model on which it is based. Inheritance simplifies the task of creating a new custom model, because you need only add or edit properties unique to the new custom model in order to create it.

Creating a Custom Model

To create a new custom model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens: 	
3	Define the new model by entering the following settings:	
	Select model type	Select a model type from the list. This selection determines the properties structure of the new custom model.
	Create model	Select the basis for the new custom model: ● New ● Based on a Schneider model ● Based on a custom model
	<base model type>	If the new custom model is based either on an existing Schneider model or a custom model, select the existing model on which the new model is based.
	General properties:	
	Model name	Enter the name of the new custom model, or accept the default name
	Default value of commodity	Select a default commodity the new model measures.
	Monitored area	
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

Refer to the following topics for a description of custom model properties configurations.

Creating a Custom Modbus Device

Description

The Com'X 200 can also communicate with any third-party Modbus device. This type of Modbus device is called Modbus serial line generic slave.

The Com'X 200 is able to communicate with a Modbus serial line generic slave in 2 ways:

- directly by using its own serial port,
- through a ModbusTCP/Modbus serial line gateway.

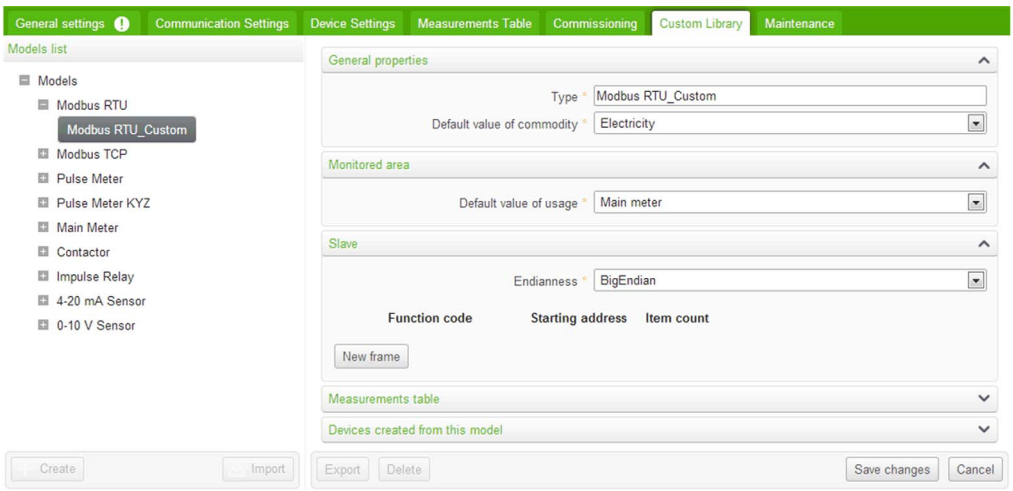
Creating a Modbus Generic Slave

To create a new custom Modbus RTU generic slave model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens.	
3	Enter the following settings:	
	Select model type	Select **Modbus RTU**.
	Create model	Select the basis for the new custom model: ● New ● Based on a Schneider model ● Based on a custom model
	<base model type>	If you are basing the new custom model on an existing Schneider model or a custom model, select the existing model on which the new model is based.
	Model name	Enter the name of the new custom model, or accept the default name **Modbus RTU_Custom**.
	Default value of commodity	Select a default commodity the new model measures.
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

Adding a Modbus Generic Slave

After you have created the new Modbus generic slave model, you can complete its definition in the **Custom Library**:



Follow this procedure to add a Modbus generic slave to the custom model created above:

Step	Action
1	Click the **Slave** collapsible menu.
2	Select the reading order in the **Endianness** dropdown list. This setting describes the registers order to be used when a variable is formatted with more than 1 register.
3	Click **New frame**.

NOTE:

- The endianness depends on the device and must be selected in the Com'X 200 settings. For example, PM700 is big endian and PM800 is little endian.
- The endianness setting is not used if variables are formatted with 16-bit registers.

Registers Example of a Modbus Generic Slave

Register	Registers number	Read/write	Scale	Unit	Format	Interval	Description
1037	1	R	x1	kW	INT	+/–0...32767	Total active power
1041	1	R	x1	kVAR	INT	+/–0...32767	Total reactive power
1049	1	R	x1000	None	INT	–1000...1000	Total power factor
1054	1	R	x10	Hz	INT	0...4000	System frequency

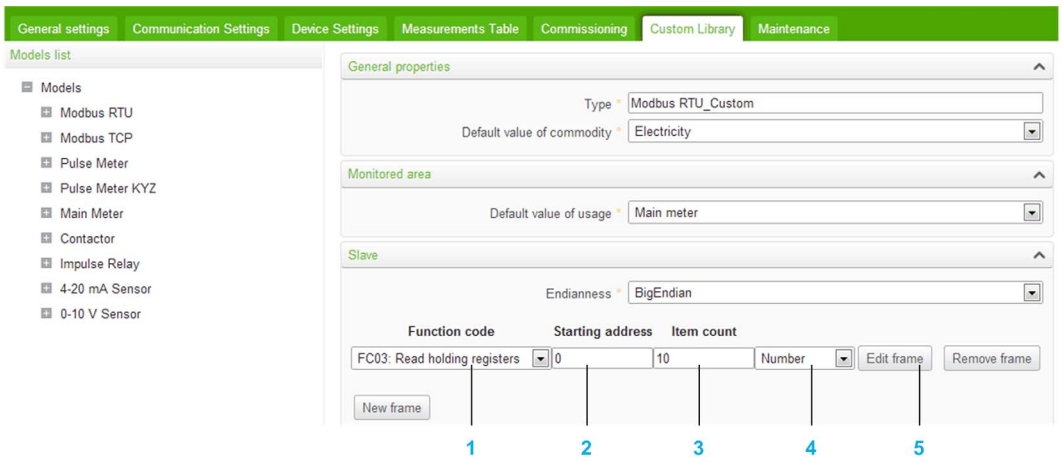
When reading the device documentation, it appears that all variables can be read with 1 frame of registers (Function code 03) starting from register 1037 and ending to register 1054 (count = 18).

Modbus Frame Description

In the Modbus protocol, the data exchange is described by frames. A frame is a request to read an array of consecutive variables. Several frames can be necessary to access all the variables of a device. To enhance performance, reduce the number of frames by mapping several variables to the same frame.

Creating a Modbus Frame

When you click **New frame**, a new line with factory settings appears:



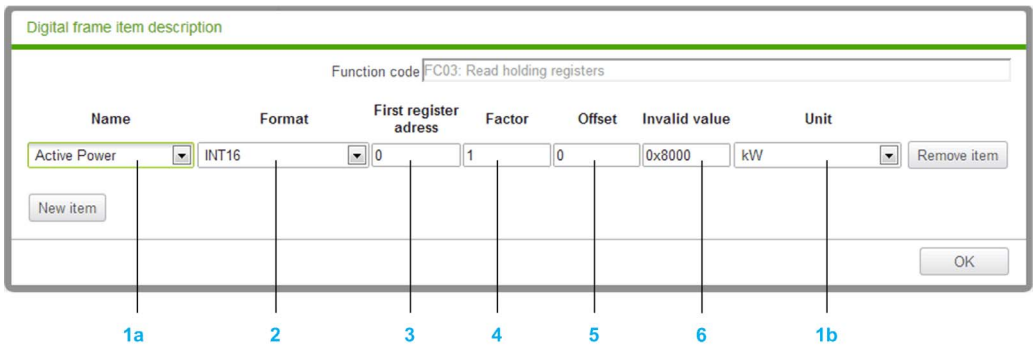
The frame settings are:

Item	Name	Description	Options
1	Function code	Specifies the type of read request list that the Com'X 200 can perform.	• FC01: coils (array of output or internal bits) • FC02: discrete input (array of input bit) • FC03: holding registers (array of output or 16-bit internal registers) • FC04: input registers (array of 16-bit input registers)
2	Starting address	Specifies the address.	0–65535(1)
3	Item count	Specifies the number of items that the frame contains.	• 1–1000 for function code FC01 or FC02 • 1–125 for function code FC03 or FC04
4	Number	Specifies the type of information that is mapped on this frame.	• Boolean for FC01 or FC02 function code • Boolean or number for FC03 or FC04 function code
5	Edit frame	Describes the variables of this frame.	–
(1) There is an offset between register number and address. Register numbers can be found in the device documentation. Registers are optionally prefixed by 40000 or 30000.			

When you finish adding and configuring frame settings, click **Save changes**.

Creating Modbus Variables

Click **Edit frame**. A dialog box appears and allows you to set up each variable.



Click **New item** to create a new variable and fill in these different fields:

Item	Field	Description	Comment
1 a 1b	**Name and Unit**	Enables you to select a variable name from the **Name** list.This variable name forces the **Unit** field.	You can select **Customized** in the dropdown list and type a new text string for the name field and the unit field.
2	**Format**	Specifies the format of this number.	Several formats are available as described in the table below.
3	**First register address**	Specifies the first register number.	The register number must belong to the range of the frame. If the format contains more than 1 register, the setting checks that the last register used by this measurement is inside the frame content.
4	**Factor**	The displayed measure = (transmitted value x factor) + offset.	The displayed measure is the value displayed in the measurement tables. Transmitted value is the measure done by the meter.
5	**Offset**		
6	**Invalid value**	Indicates the transmitted value is invalid.	–

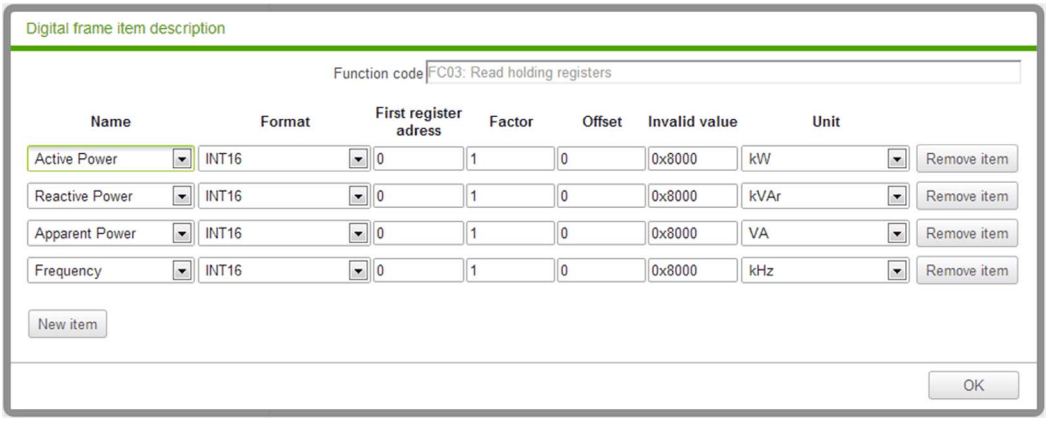
When you finish adding and configuring frame settings, click **OK** to close the dialog, then click **Save changes**.

The table describes the available formats:

Format	Description	Minimum value	Maximum value	Use “Endian” Setting
INT16	1 register with signed integer value	–32768	32767	No
UINT16	1 register with positive integer value	0	65535	No
INT32	2 registers with signed integer value	–2147483648	2147483647	Yes
UINT32	2 registers with positive integer value	0	4294967295	Yes
FLOAT32	2 registers with signed floating point value coded according to IEEE754 standard	–1E–10	+1E–10	Yes
UINT32_MOD10K	2 registers with positive integer value from 0 to 9999	0	99999999	Yes
INT64	4 registers with signed integer value	–2 (^63)	–2 (^63)–1	Yes
UINT64	4 registers with positive integer value	0	–2 (^63)–1	Yes
UINT64_MOD10K	4 registers with positive integer value from 0 to 9999	0	9 999 999 999 999 999	Yes

Modbus Variable Creation Example

This graphic shows an example of settings:



Adding a Custom Modbus Device

After you create a custom Modbus device in the **Custom Library**, you can add it to your network in the same way you add any Modbus device: either by the automatic discovery function *(see page 83)*, or by manually adding *(see page 85)* the custom Modbus device.

Creating a Custom Main Meter Model

Overview

The custom main meter model is made up of 2 pulse outputs and 4 contact outputs. You can create a customized main meter by entering customized settings for the following measure properties of each of the 2 pulse outputs:

- Count element
- Count unit
- Flow element
- Flow unit

The signal properties of the 4 contact outputs present the same configuration choices as the Schneider Electric standard main meter.

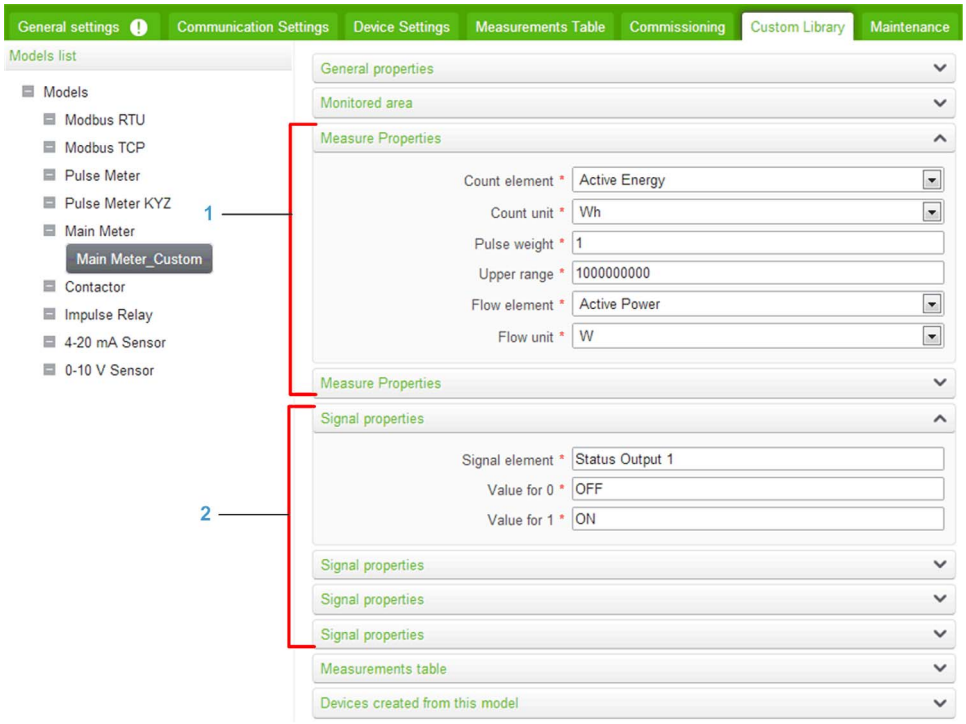
Creating a Custom Main Meter

To create a new custom main meter model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens.	
3	Enter the following settings:	
	Select model type	Select **Main Meter**.
	Create model	Select the basis for the new custom model: ● New ● Based on a Schneider model ● Based on a custom model
	<base model type>	If you are basing the new custom model on an existing Schneider model or a custom model, select the existing model on which the new model is based.
	Model name	Enter the name of the new custom model, or accept the default name **Main Meter_Custom**.
	Default value of commodity	Select a default commodity the new model measures.
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

Measure and Signal Properties

This graphic shows the measure and signal properties for a newly created custom main meter model:



1 2 pulse outputs
2 4 contact outputs

Each pulse output presents the following measure properties:

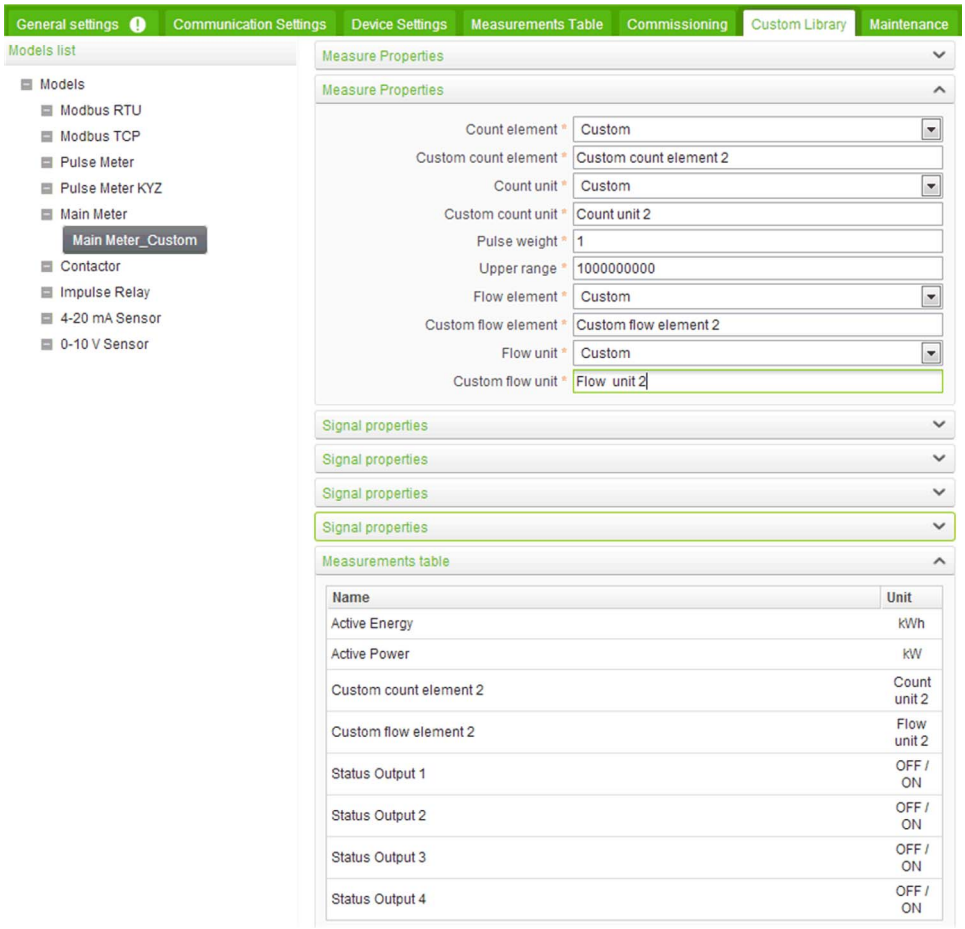
Field	Description
Count element	Select a measure element from the list, or select **Custom** and enter a personalized name into the **Custom count element** field.
Count unit	Select a measure unit from the list, or select **Custom** and enter a personalized unit into the **Custom count unit** field.
Pulse weight	The pulse counter increases by this value each time a pulse is received. The list is restricted to the values that correspond to the selected meter type.
Upper Range	Defines when the active energy counter rolls back to zero.
Flow element	Select a flow element from the list, or select **Custom** and enter a personalized name into the **Custom flow element** field.
Flow unit	Select a flow unit from the list, or select **Custom** and enter a personalized unit into the **Custom flow unit** field.

Each contact output presents the following signal properties:

Field	Description
Signal element	Enter the name of this signal, or accept the default name **Status Output n**, where n represents the signal number (1...4).
Value for 0	Enter the status associated with a value of 0. Default is **OFF**.
Value for 1	Enter the status associated with a value of 1. Default is **ON**.

Measurements Table

The measure and signal property selections you make, including customized properties for pulse outputs, are reflected in the measurements table. The following example displays customized count and flow elements and units for the second measure property:



Adding a Custom Main Meter

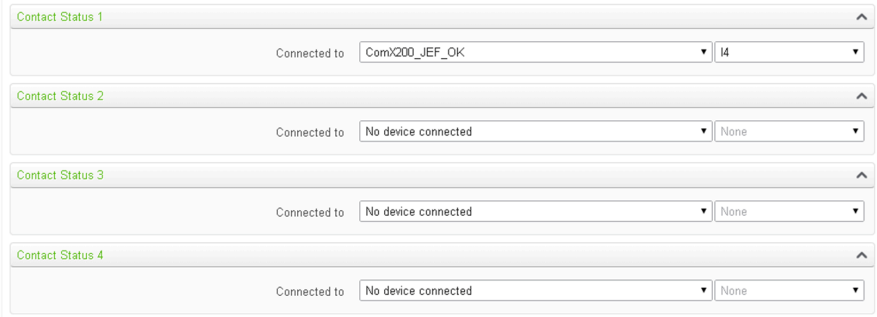
After you create a custom main meter model in the **Custom Library**, you can add instances of that custom main meter in the **Device Settings**.

When you add a custom main meter, the 2 pulse outputs are automatically connected to the upstream device. You can connect the 4 contact outputs.

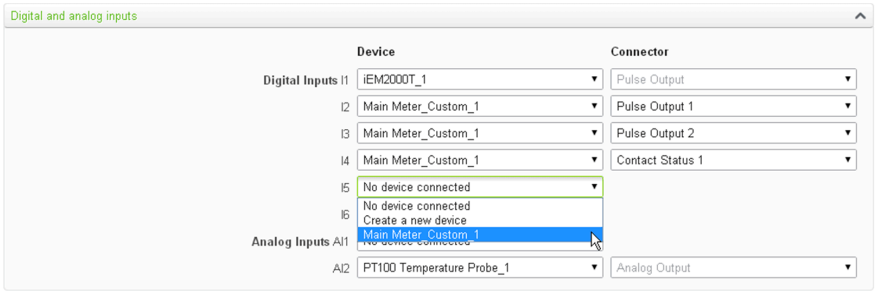
Connecting a Standard Main Meter

There are 2 ways of connecting the contact outputs.

The first way is from the properties collapsible menu of the standard main meter:

Step	Action
1	Click the **Device settings** main tab.
2	Select the main meter in the device tree view.
3	Select **Pulse Output 1** in the **Properties** collapsible menu. 
4	Select the number of digital outputs in the dropdown list.
5	Repeat steps 3 and 4 for the **Pulse Output 2** properties.
6	Click **Save changes**.

The second way is from the properties area of the upstream device:

Step	Action
1	Click the **Device settings** main tab.
2	Select the upstream device in the device tree view.
3	Click the **Digital and analog inputs** collapsible menu.
4	Select the name of the main meter in the **Device** dropdown list.
5	Select the contact output that has to be connected in the **Connector** dropdown list. 
6	Click **Save changes**. The device tree view shows that the standard main meter is connected to an additional digital input.

Creating a Custom Pulse Meter Model

Overview

You can create a customized pulse meter by inputting customized settings for the following measure properties:

- Count element
- Count unit
- Flow element
- Flow unit

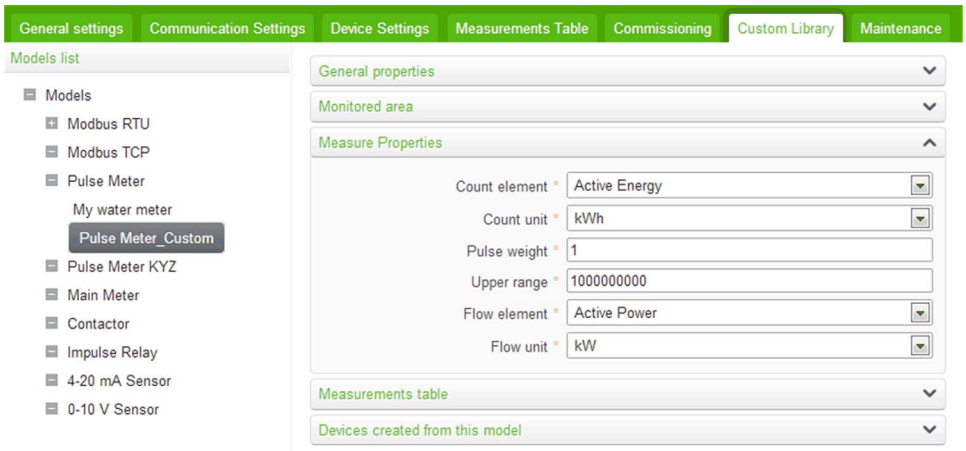
Creating a Custom Pulse Meter

To create a new custom generic pulse meter model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens.	
3	Enter the following settings:	
	Select model type	Select **Pulse Meter**.
	Create model	Select the basis for the new custom model: ● New ● Based on a Schneider model ● Based on a custom model
	<base model type>	If you are basing the new custom model on an existing Schneider model or a custom model, select the existing model on which the new model is based.
	Model name	Type the name of the new custom model, or accept the default name **Pulse Meter_Custom**.
	Default value of commodity	Select a default commodity the new model measures.
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

Measure Properties

This graphic shows the measure properties for a newly created custom pulse meter model:

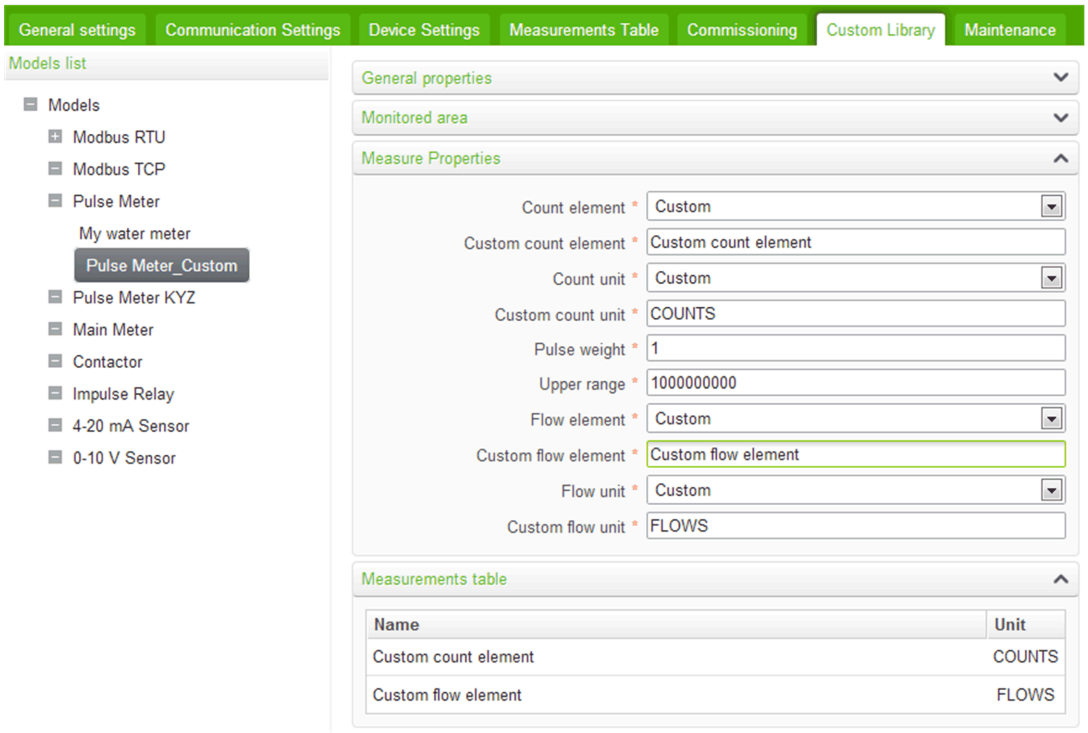


The measure properties include the following:

Field	Description
Count element	Select a measure element from the list, or select **Custom** and type a personalized name into the **Custom count element** field.
Count unit	Select a measure unit from the list, or select **Custom** and type a personalized unit into the **Custom count unit** field.
Pulse weight	The pulse counter increases by this value each time a pulse is received. The list is restricted to the values that correspond to the selected meter type.
Upper Range	Defines when the active energy counter rolls back to zero.
Flow element	Select a flow element from the list, or select **Custom** and type a personalized name into the **Custom flow element** field.
Flow unit	Select a flow unit from the list, or select **Custom** and type a personalized unit into the **Custom flow unit** field.

Measurements Table

The measure property selections you make, including customized properties, are reflected in the measurements table. The following example displays customized count and flow elements and units:



Creating a Custom KYZ Pulse Meter Model

Measurement Properties

The custom KYZ pulse meter model presents the same **Measure Properties** and **Measurements table** items as the custom pulse meter model *(see page 107)*.

Description

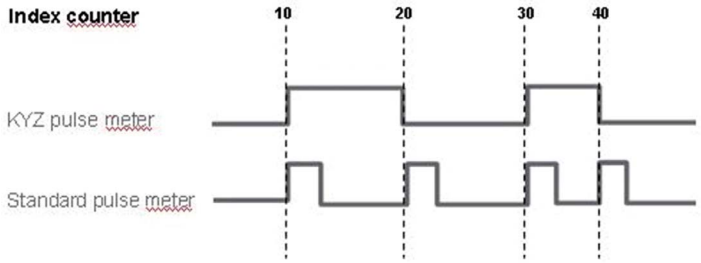
The custom KYZ pulse meter model has a dry contact closure that changes state each time the counter advances.

The Com'X 200 detects the change of state, and the counter increases by the pulse weight value.

NOTE: Each instance of a custom KYZ pulse meter needs to be directly connected to the digital inputs of the Com'X 200.

Index Counter

This graphic shows the difference between a KYZ pulse meter and a standard pulse meter (pulse weight = 10):



Creating a Custom Contactor or Impulse Relay

Overview

Connecting a contactor or impulse relay to a digital input allows you to monitor status output. The counter runs when the contact is closed.

Creating a Custom Pulse Meter

To create a new custom generic pulse meter model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens.	
3	Enter the following settings:	
	Select model type	Select either **Contactor** or **Impulse Relay**.
	Create model	Select the basis for the new custom model: ● New ● Based on a custom model
	<base model type>	If you are basing the new custom model on an existing custom model, select the existing model on which the new model is based.
	Model name	Type the name of the new custom model, or accept the default name, either **Contactor Custom** or **Impulse Relay Custom**.
	Default value of commodity	Select a default commodity the new model measures.
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

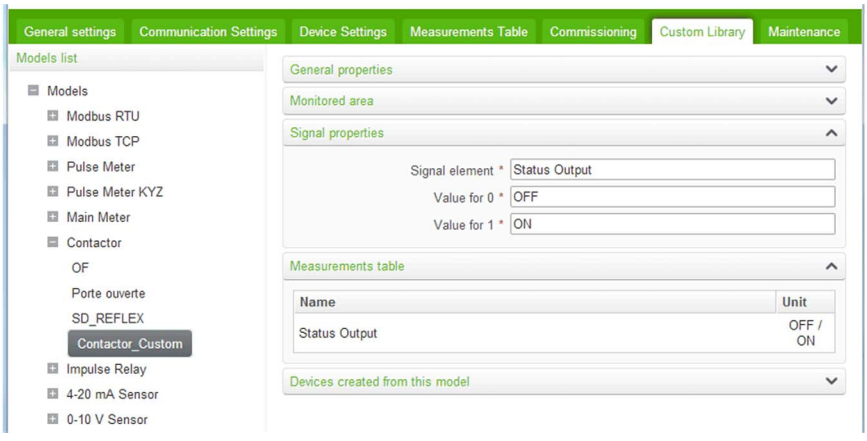
Measurement Properties

This table shows the measurement properties of a contactor or impulse relay:

Field	Description
Signal element	Enter the element being monitored, or accept the default **Status Output**.
Value for 0	Enter the state represented by a value of 0, or accept the default **OFF**.
Value for 1	Enter the state represented by a value of 1, or accept the default **ON**.

Measurement Table

This graphic shows the measurement table interface:



By default, measurements are logged and published to the hosted platform.

Creating a Custom Analog Sensor Model

Overview

The Com'X 200 offers 2 analog sensor templates:
- 4...20 mA
- 0...10 V

Each custom analog sensor model monitors a single point. You can create a customized analog sensor model by entering customized settings for the following properties:
- Count element
- Count unit

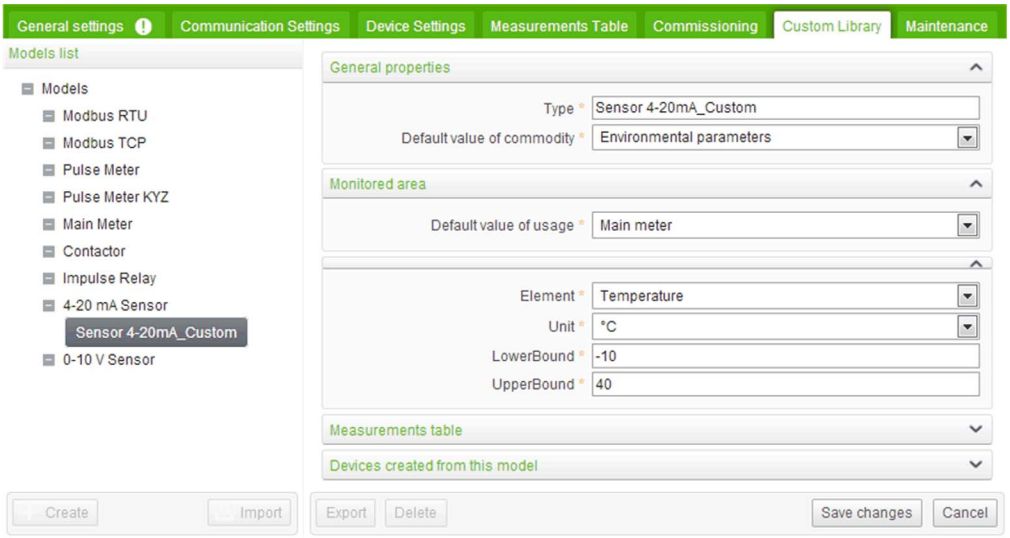
Creating a Custom Analog Sensor

To create a new custom analog sensor model, follow these steps:

Step	Action	
1	Click the **Custom Library** main tab.	
2	Click **+Create** on the lower left part of the page. The **Create a custom model** dialog opens.	
3	Enter the following settings:	
	Select model type	Select either: ● **4-20 mA Sensor** ● **0-10 V Sensor**
	Create model	Select the basis for the new custom model: ● **New**
	Type	Enter the name of the new custom model type, or accept the default name, either **Sensor 4-20mA_Custom** or **Sensor 0-10V_Custom** depending on the selected model type.
	Default value of commodity	Select a default commodity the new model measures.
	Default value of usage	Select a default value for how the new model is used.
4	Click **Create**. The dialog closes, and the newly created custom model properties page opens for initial configuration.	

Measure and Signal Properties

This graphic shows the monitored area properties for a new custom 4...20 mA analog sensor model:

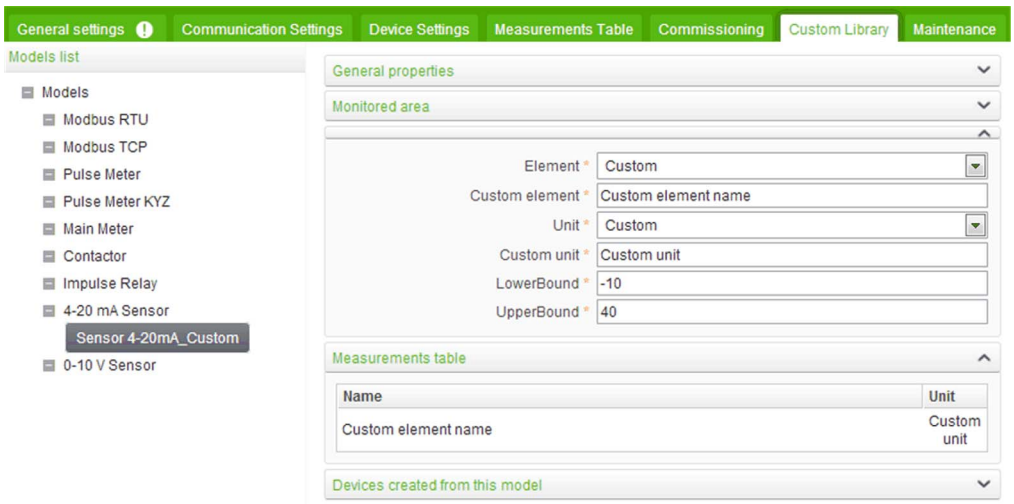


Each pulse output presents the following measure properties:

Field	Description
Element	Select a monitoring element from the list, or select **Custom** and enter a personalized name into the **Custom element** field.
Unit	Select a monitoring unit from the list, or select **Custom** and enter a personalized unit into the **Custom unit** field.
LowerBound	The value mapped as the minimum monitored value.
UpperBound	The value mapped as the maximum monitored value.

Measurements Table

The monitoring property selections you make, including customized properties, are reflected in the measurements table. The following example displays a customized count elements and unit:



Working with Custom Models

Modify a Custom Model

To modify the settings of an existing custom model, follow these steps:

Step	Action
1	Click the **Custom Library** main tab.
2	Display a list of existing models. Either: ● Click **Models** in the navigation tree to display a list of all models, or ● Click **Models** →**<Model Type>** (for the model type you wish to modify) to display a list of models of the selected type.
3	Click the model in the list you want to modify.
4	Make your edits of the configurable properties for the selected model.
5	Click **Save changes**.

Delete a Custom Model

To delete an existing custom model, follow these steps:

Step	Action
1	Click the **Custom Library** main tab.
2	Display a list of existing models. Either: ● Click **Models** in the navigation tree to display a list of all models, or ● Click **Models** →**<Model Type>** (for the model type you wish to delete) to display a list of models of the selected type.
3	Do one of the following. Either: ● To delete a single model, click the **Remove** icon ( ) in the row for the model you want to delete, or ● To delete multiple models, place a check mark next to the several models you want to delete, then click **Delete**.

NOTE:

- A model is deleted when you issue the **Remove** or **Delete** command. No message box appears and asks you to confirm the delete command.
- You can delete a model only if no devices have been created from the model.

Export one or more Custom Models

To export one or more custom models, follow these steps:

Step	Action
1	Click the **Custom Library** main tab.
2	Navigate to the model you want to export. Either: ● Click **Models** in the navigation tree to display a list of all models, or ● Click **Models** →**<Model Type>** (for the model type you wish to export).
3	Do one of the following. Either: ● To export a single model, click the **Export** icon ( ) in the row for the model you want to export, or ● To export multiple models, place a check mark next to the models you want to export, then click **Export**.

NOTE: The exported model is wrapped in a .zip file and sent to the default download location of your browser.

Import one or more Custom Models

To import one or more custom models, follow these steps:

Step	Action
1	Click the **Custom Library** main tab.
2	Click **Import**. The **Import models** dialog opens.
3	Click **Browse**. The **Open** dialog appears.
4	In the **Open** dialog, navigate to and select the custom model or models to import, then click **Open**.
5	In the **Import models** dialog, click **Import**.
6	After the import process is complete, click **Close**. The imported model or models appear in the **Custom Library** beneath the appropriate device type.

Chapter 12
Maintenance

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Logs	116
System Settings	117
Firmware Upgrade	118
Save the Configuration	120
Upload A Duplicate Configuration File from Another Com'X 200	122
Com'X 200 Replacement	123
Restore the Configuration	124
Reset	125

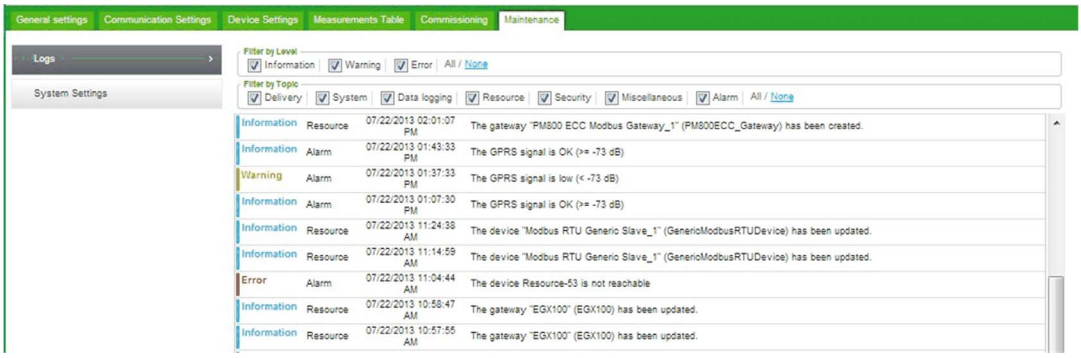
Logs

Overview

The **Logs** subtab displays the list of events that have been logged with the recorded date and time and a short description of the event.

The Com'X 200 displays logs for at least 10 minutes before power outage or shutdown.

This graphic shows the interface of the logs:


General settings
Communication Settings
Device Settings
Measurements Table
Commissioning
Maintenance
Logs
System Settings
Filter by Level
Information
Warning
Error
All / None
Filter by Topic
Delivery
System
Data logging
Resource
Security
Miscellaneous
Alarm
All / None
Information Resource 07/22/2013 02:01:07 PM The gateway "PM800 ECC Modbus Gateway_1" (PM800ECC_Gateway) has been created.
Information Alarm 07/22/2013 01:43:33 PM The GPRS signal is OK (>= -73 dB)
Warning Alarm 07/22/2013 01:37:33 PM The GPRS signal is low (< -73 dB)
Information Alarm 07/22/2013 01:07:30 PM The GPRS signal is OK (>= -73 dB)
Information Resource 07/22/2013 11:24:38 AM The device "Modbus RTU Generic Slave_1" (GenericModbusRTUDevice) has been updated.
Information Resource 07/22/2013 11:14:59 AM The device "Modbus RTU Generic Slave_1" (GenericModbusRTUDevice) has been updated.
Error Alarm 07/22/2013 11:04:44 AM The device Resource-53 is not reachable
Information Resource 07/22/2013 10:58:47 AM The gateway "EGX100" (EGX100) has been updated.
Information Resource 07/22/2013 10:57:55 AM The gateway "EGX100" (EGX100) has been updated.

Logged Events

The events that are logged are:

Topic	Event
Resource	Change in the configuration of: ● devices ● publication
Delivery	Publication steps and status (failed or succeed)
	Activation/deactivation of the periodic publication
Logging	Activation/deactivation of the data logging
Security	Failed login
Alarm	Low level of GPRS signal
	Error detected during the login
	Device not communicating
	CPU and RAM overuse
	Buffer full or buffer reaches 80 % of its capacity
	Communication interruptions with metering devices
System	Time setting modification
	Firmware update and status
	Boot time

System Settings

Overview

Remote Access enables Schneider Electric support to connect remotely to a Com'X 200 to check settings and to troubleshoot without having to go on customer site.

In the **System Settings** subtab, the **Remote Access** button can be activated or deactivated.

Procedure for Remote Access

When activated, the **Remote Access** button is used to create a connection between the Com'X 200 and Schneider Electric remote services.

Follow this procedure to activate the **Remote Access** button:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Put **ON** the **Remote Access** button only if Schneider Electric support team is asking for it. Otherwise, let the **Remote Access** button on **OFF** (factory setting). **NOTE:** When pushed, the **Remote Access** button is deactivated after 3 hours.

Firmware Upgrade

Overview

Firmware on the Com'X 200 can be updated by using the web page or the USB port on the Com'X 200 front face.

For the latest firmware update, check *www.schneider-electric.com* on the Com'X 200 page or with the local sales representative.

Upgrading via the Web Page

Follow this procedure to upgrade the firmware through the web interface:

Step	Action
1	Save the firmware file on your laptop.
2	Click the **Maintenance** main tab.
3	Click the **System settings** subtab.
4	Click **Browse** in the **Firmware upgrade** collapsible menu.
5	Click **Open**. The selected file appears in the field next to the **Browse** button.
6	Click **Upgrade Firmware**. The message **Application not reachable** is displayed during the upgrade.
7	Wait for the Com'X 200 to reboot, which can take up to 10 minutes. The power LED turns green when the reboot is complete.
8	Log in to the Com'X 200.
9	Check that the new firmware has been installed in the **About** page.

Upgrading via the USB Port

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be installed and serviced only by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Follow this procedure to upgrade the firmware by using the USB port:

Step	Action
1	Save the firmware file at the root of the USB memory key.
2	Rename the file: `upgrade.tgz`.
3	Make sure there is no file, located at the root of the USB memory key, with a name that is the same as the Serial Number of the Com'X 200.
4	Power down the Com'X 200.
5	Insert the USB memory key in the USB port located on the front face.
6	Power up the Com'X 200.
7	Wait for the Com'X 200 to reboot, which can take up to 10 minutes. The power LED turns green when the reboot is complete.
8	Connect a PC on the Com'X 200 and check the **About** page to confirm that the new firmware is installed.

Upgrading via RSP

Firmware upgrade through RSP is managed by Schneider Electric technical support.

At the end of the firmware upgrade process the Com'X 200 device reboots. Logging and publication restart automatically.

Firmware upgrade is performed at 1:40 a.m. in order to disturb as little as possible data logging and publication.

NOTE: It is not recommended to make the first firmware upgrade of the Com'X 200 using the RSP through GPRS connection. Because the GPRS connection has a speed of only 20 kb/s, the firmware update could take several hours.

Save the Configuration

Overview

The whole configuration of the Com'X 200 can be saved to a file to be restored on the same Com'X 200.

The file is in the format `Com'X 200 name_Firmware version_YYYYMMDD-HHMM.zip`. For example, `MyCom'X 200_V1.0_20130110_1020.zip` indicates that the file is generated from:

- a Com'X 200 named `MyCom'X 200`
- running on the firmware version 1.0
- on January 10th 2013 at 10:20 a.m.

The configuration can be saved only after the initial configuration or updating is completed.

NOTE: This feature is not available on the iPad.

Saving the Configuration Locally

Follow this procedure to save the configuration locally:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Click **Save Configuration** in the **Configuration Management** collapsible menu. According to the web browser used, a dialog box appears to open, save, or cancel the configuration file.
4	Select the option to save the file in the dialog box. The date and time of the last configuration backup are displayed under the **Save Configuration** button.
5	In the **Choose File** field, select the location on the computer to save the file and save the configuration.

Saving the Configuration with Remote Service Platform

Follow this procedure to save the configuration with the **Remote Service Platform**:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Click **Save Configuration to RSP** in the **Remote Service Platform backup** collapsible menu. The status of the connection follows these steps: ● **Contacting the server...** ● **Saving in progress...** ● **Configuration uploaded successfully** **NOTE:** If the Com'X 200 cannot connect to the RSP server to upload the backup, retry or contact Schneider Electric technical support.
4	Select the option to save the file in the dialog box. The date and time of the last saving are displayed under the **Save Configuration to RSP** button and under this format: **[Last configuration backup done on mm/dd/yyyy hh:mm:ss]**.

Backup the Configuration for Duplication on another Com'X 200

When you backup an existing configuration file for duplication on another device, the backup file contains the original configuration, except for the following settings:

- the device **Name** field is set to Com'X 200_xxyyzz, where xxyyzz represent the last 3 hexadecimal octets of the device MAC address
- the **Site name** field is left blank (a new Energy operation site ID is created)

NOTE: Do not use this procedure with a backup from a box connected to RSP.

Follow this procedure to duplicate the configuration so that it can be applied to a different Com'X 200:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Click **Backup for duplication** in the **Configuration Management** collapsible menu. The duplication file is stored on the local PC at the default location for internet browser downloads.

Saving the Configuration via the USB Port

Follow this procedure to save the configuration to a USB key:

Step	Action
1	Insert a USB key into the USB port on the Com'X 200 front panel.
2	Press and hold down the **Backup button** for at least 3 seconds. **NOTE:** During backup the USB LED behaves as follows: ● If no error is detected during backup, the USB LED blinks green for 500 ms, then OFF for 500 ms. ● If an error is detected, the USB LED blinks green for 250 ms, then OFF for 250 ms for a total of 3 seconds.
3	If no error is detected during backup, the backup is complete when the blinking stops. You can remove the USB key from the Com'X 200 front panel.

Upload A Duplicate Configuration File from Another Com'X 200

Uploading the Configuration with a Local File

Follow this procedure to upload a duplicate configuration file *(see page 121)* from another Com'X 200:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Click **Browse** in the **Configuration Management** collapsible menu.
4	Select the file that has to be uploaded to restore the configuration.
5	Click **Open** for the selected file to appear.
6	Click **Apply the configuration**.
7	Wait for the Com'X 200 to reboot, which can take up to 10 minutes. The power LED turns green when the reboot is complete.
8	Reconnect to the Com'X 200.
9	Click the **General settings** main tab.
10	Click the **Site information** subtab.
11	Type the new site location name; then click **Save changes** to save the modification. **NOTE:** The site location name may not include any of the following characters: '/:*?<>| or space.
12	Click the **Device Settings** tab.
13	Select the Com'X 200 product in the Device tree view situated on the left side of the screen.
14	Type the Com'X 200 name in the **General Properties** collapsible menu
15	Press **Save changes** to save your modification.
16	Click the **Measurement table** tab to check the correct connection, setting and functioning of the new site.
17	Select the **Commissioning** tab to activate logging and publication according to destination platform (Refer to the *Commissioning (see page 95)* chapter for additional information.)

Uploading the Configuration with a USB Key

Follow this procedure to upload a duplicate configuration file from another Com'X 200 using a USB key:

Step	Action
1	Copy the duplicate configuration file to a folder named "Restore" at the root of the USB key.
2	Power off the Com'X 200, then plug the USB key into the USB port on the Com'X 200 front panel.
3	Power on the Com'X 200. **NOTE:** When the power LED turns green, the reboot is complete.
4	Follow steps 8...17 described in the procedure Uploading the Configuration with a Local File *(see page 122)*, above.

Uploading the Configuration via RSP

Uploading the configuration file from another Com'X 200 is not possible remotely through RSP.

Com’X 200 Replacement

Com’X 200 Replacement via Local File

Replace the old Com’X 200 with the new one and apply a restore configuration procedure *(see page 124)*.

Com’X 200 Replacement via RSP

NOTE: Make sure that the device has been replaced in **Service Management** before installing the new device.

Follow this procedure to replace the device:

Step	Action
1	Switch on the new box.
2	Click the **Communication Setting** tab.
3	Configure the **Network communication** subtab, if required.
4	Configure the **Proxy Settings** subtab, if required.
5	Click **General Settings** →**Publication**.
6	In the **Destination Platform** field, choose **Remote Services Platform**.
7	Save changes.
8	Verify that the connection status displays **Connected to the destination platform**.
9	Call Schneider Electric technical support and request a restore.
10	The Com’X 200 reboots.
11	Start the publication from the **Commissioning** tab.

Status When Connecting to the RSP

This table describes the status when connecting to the RSP:

Status	Description
Initializing	Connection process is starting.
Configuring destination platform	The Com’X 200 reads internal information to establish the connection. If a network error is detected, check ● the IP settings in the **Communication settings**/**Network settings** page. ● the proxy settings in the **Communication settings**/**Proxy settings** page.
Device identified	Connection is established with the remote service. The device has been identified on the remote platform.
Connecting to the destination platform	The Com’X 200 tries to publish a test message.
Connected to the destination platform	Publication is enabled only when this status is displayed. If this message does not display, contact RSP support.

Restore the Configuration

Restoring the Configuration with a Locally Saved File

When restoring the configuration with a locally saved configuration file *(see page 120)*, the current password is unchanged.

NOTE: Do not restore a backup made without a connection to Remote Service Platform (RSP) to a box after a connection to RSP has been made.

Follow this procedure to restore the configuration on the same Com'X 200:

Step	Action
1	Click the **Maintenance** main tab.
2	Click the **System Settings** subtab.
3	Click the **Configuration Management** collapsible menu.
4	In the **File** field, select the file that has to be uploaded to restore the configuration.
5	Click **Open** for the selected file to appear.
6	Click **Apply the configuration**.
7	Wait for the Com'X 200 to reboot, which can take up to 10 minutes. The power LED turns green when the reboot is complete.
8	Log in to the Com'X 200.
9	Check the configuration in the **settings** tabs and start the publication again from the **Commissioning** tab.

Restoring the Configuration with a USB Key

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be installed and serviced only by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Follow this procedure to restore a locally saved configuration file *(see page 120)* on the same Com'X 200 using a USB key:

Step	Action
1	Copy the saved configuration file to a folder named "Restore" at the root of the USB key.
2	Power off Com'X 200, then plug the USB key into the USB port on the Com'X 200 front panel.
3	Power on the Com'X 200. **NOTE:** When the power LED turns green, the reboot is complete.
4	Log in to the Com'X 200.
5	Check the configuration in the **settings** tabs and start the publication again from the **Commissioning** tab.

Restoring the Configuration via RSP

Contact Schneider Electric technical support to request the restore of the configuration saved on **Remote Service Platform**. Schneider Electric technical support is able to launch the restore at any requested time. At the end of the restore the Com'X 200 device reboots.

Log into the Com'X 200, check the configuration in the **Settings** tab then start the publication again from the **Commissioning** tab.

Reset

Overview

Resetting the password does not affect the other configuration settings and data.

The web server is a tool for reading and writing data. It controls the state of the system, with full access to all data in your application. You will be prompted to change your password the first time you log in to prevent unauthorized access to the application.

NOTE: A secure password should not be shared or distributed to unauthorized personnel. The password should not contain any personal or obvious information.

The new password must contain:
- 8 characters
- 1 letter in upper-case
- 1 numeric digit
- 1 special character

Reset Password Locally

If the password is lost, follow this procedure to reset the password to factory values:

Step	Action
1	Press the **Backup** button on the Com'X 200 front face and hold it for at least 10 s until the power LED flashes green 3 times.
2	Release the button.
3	To access to the Com'X 200 configuration web pages, use these settings: ● Username: admin ● Password: admin

Reset Password Through RSP

Schneider Electric technical support can reset the password remotely. Contact the technical support to request a password reset.

Reset to Factory Settings

NOTE:

Hazard of IP address conflict: disconnect the Com'X 200 from any Ethernet networks before resetting the IP settings to factory values.

When following the procedure below, all data and logs that have been stored are erased.

To reset the Com'X 200 completely, follow this procedure to set all configuration settings to factory values:

Step	Action
1	Switch off the Com'X 200 and wait until the power LED is off.
2	Press simultaneously the **Backup** button and the **Wi-Fi** button on the Com'X 200 front face and switch on the Com'X 200. Hold the buttons for at least 10 s until the power LED flashes 3 times.
3	Release the buttons. The Com'X 200 reboots.
4	Wait for the Com'X 200 to restart completely, which can take up to 10 minutes. The power LED is: ● orange when the Com'X 200 is starting. ● green when the Com'X 200 has been reset to factory settings and is ready to be configured.
5	Follow the instructions described in chapter 4 *(see page 26)* and chapter 5 *(see page 31)* for accessing to the Com'X 200 web pages.

Chapter 13
Checklist Before Leaving Customer Site

Checklist Before Leaving Customer Site

Overview

This list is not exhaustive.

Checklist

Schneider Electric recommends using this checklist before leaving customer site:

Checkpoint	Done	Comments
Logging is ON in the head banner.		
Publication is ON in the head banner.		
Each meter returns relevant values in the Measurements Table.		
Each analog sensor returns relevant values in the Measurements Table.		
No notification icon is in the Measurements Table.		
For Ethernet connections, the LED eth1 and/or eth2 is blinking.		
For GPRS connections, the wireless connection has a reception level at least equals to 2/4.		
For GPRS connections, check the LED and the general status.		
The last publication to the platform has to be successful.		
User name (admin) and password for the Com'X 200 access have been given to the end user.		

Chapter 14
Troubleshooting

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Metering Device Troubleshooting	130
Modbus Device Troubleshooting	131
Network Troubleshooting	132
Com'X 200 Troubleshooting	133

Metering Device Troubleshooting

Prerequisites

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be installed and serviced only by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Digital Input Troubleshooting

This table describes how to solve issues with digital inputs:

Issue	Possible Solution
No pulse is received. The digital input LED is not flashing.	Bridge the input terminals between the terminal and the 12 V power supply with a short piece of wire to confirm that the LED is working. If the input LED lights up when you bridge the input terminals, the issue is likely with the meter and/or the wiring to the meter.
	Check that the pulse output meter is connected to a digital input terminal and the 12 V power supply. Refer to the *Installation Guide* for wiring diagrams.
	Check that the pulse output device is operating.
No pulse is received. The digital input LED is flashing.	Check the digital input number to which the pulse meter is connected.

Analog Input Troubleshooting

This table describes how to solve issues with analog inputs:

Issue	Possible Solution
No analog value can be read.	Check that the analog output sensor is connected to the proper terminals. Refer to the *Installation Guide* for wiring diagrams.
	In the configuration web page, check that the analog input number is set to the correct type of sensor: RTD, 0–10 V, or 4–20 mA.

Modbus Device Troubleshooting

Prerequisites

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Description

This table describes how to solve issues with Modbus devices:

Issue	Possible Solution
No Modbus device can be retrieved on the Com'X 200 serial line.	**1** Open the **Measurements Table** main tab of the Com'X 200. **2** If the Rx communication LED does not flash on the device, check the wiring integrity. **3** If the Rx communication LED flashes on the device, but the Tx communication LED does not flash on the device: ● check that the device settings match the Com'X 200 Modbus serial settings (**Baud rate**, **Parity**, and **Number of stop bit**). ● check that the **Serial line polarization** is set to **Yes**. ● check that the **Serial line polarization** is not activated on another Modbus slave device on the same serial line.
Some Modbus devices are missing on the Com'X 200 serial line.	Check the Modbus addresses of the missing devices.
	Check that 2 devices do not have the same slave ID.
	Check that the settings of the missing devices match the Com'X 200 Modbus serial settings (**Baud rate**, **Parity**, and **Number of stop bit**).
	Check that the wiring connections of the missing devices are correct.
	Check that the discovery range is large enough. The factory settings range from 1 to 10.
	Check that the wiring of the missing devices is correct.
No Modbus device can be retrieved downstream a gateway.	Use the **Diagnostic/Read Device Registers** feature of the EGX to define if the issue is between Modbus device and the EGX or between the Com'X 200 and the EGX. If the issue is located between ● the Com'X 200 and the EGX, check the IP address of the gateway. ● the EGX and the Modbus device, check that the Modbus device settings match the EGX serial port setup (**Baud rate**, **Parity**, and **Number of stop bit**). The combination (**Parity** = none and **Number of stop bit** = 1) of port setup is not supported by the EGX. Change for another combination.

Network Troubleshooting

Prerequisites

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be installed and serviced only by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Ethernet Troubleshooting

This table describes how to solve issues with Ethernet:

Issue	Possible Solution
Ethernet LEDs are not blinking.	Check that the Ethernet LAN cables are not disconnected.
Cannot access to Modbus devices downstream a Modbus TCP/Modbus serial line gateway.	Check the IP address of the gateway. If data export is via GPRS, check that the gateway is on the same Ethernet subnetwork than the Com'X 200.

GPRS Troubleshooting

This table describes how to solve issues with GPRS:

Issue	Possible Solution
GPRS modem is not detected. The LED modem is not flashing.	Power down the Com'X 200. Insert again the GPRS modem and power up the Com'X 200.
GPRS modem cannot connect to the network.	Check that the settings such as the APN are correct.
GPRS let on front panel turns ON and OFF periodically.	Check that protocol settings are correct in General Setting - Publication.

Wi-Fi Troubleshooting

This table describes how to solve issues with Wi-Fi:

Issue	Possible Solution
Wi-Fi USB key is not detected. The LED USB key is not flashing.	Power down the Com'X 200. Insert again the Wi-Fi USB key and power up the Com'X 200.
Wi-Fi USB key cannot connect to the network.	Check that the settings such as the SSID name and the WPA2 key are correct.

Com'X 200 Troubleshooting

Com'X 200 Access

This table describes how to solve issues when accessing to the Com'X 200:

Issue	Possible Solution
Cannot log in through customer LAN.	Log in to the Com'X 200. Follow the procedures described in First Log In *(see page 21)*. Check the IP address.
Lost password	Follow the procedure to reset the password *(see page 125)*.

Web Pages

This table describes how to solve issues when viewing the Com'X 200 web pages:

Issue	Possible Solution
The web pages are not displayed correctly.	Check the screen resolution of your laptop. It has to be set to 1280x1024 at least.
	In Internet Explorer, check that the **Display intranet sites in compatibility view** box is disabled by selecting **View settings compatibility** in the **Tools** tab on Internet Explorer.
	Delete browsing history.
The web pages are not properly displayed on a smartphone.	Web pages adapted to smartphone are not available in version 1.0.

Remote Service Platform Selection

This table describes how to solve issues when connecting to the RSP:

Issue	Possible Solution

Network error message displayed when selecting **Remote Service Platform**.	• If an Ethernet connection is used for publication, check:
	  ◦ the IP settings in the **Communication settings**/**Network settings** page
	  ◦ the proxy settings in the **Communication settings**/**Proxy settings** page
	• If a GPRS connection is used for publication, check the GPRS signal level and adapt in consequence the antenna position.

Data Publishing

This table describes how to solve issues when publishing data:

Issue	Possible Solution
Publication to the platform was unsuccessful.	Check the platform user name and the password.
Publication to the platform was unsuccessful with Ethernet .	Check if a proxy is implemented on the network. If so, refer to Proxy Settings *(see page 60)* for further information.
The Com'X 200 connects to the FTP server but does not succeed in delivering the data file.	Check that your FTP account has the right to rename a file on the FTP server.

Firmware Upgrade

This table describes how to solve issues when upgrading firmware:

Issue	Possible Solution
Firmware is not upgraded when managed through USB memory key plugged on front panel.	Delete the file DNxxxxxxxxxxxxx-xxx (with xxxxxxxxxxxxx-xxx = serial number of the Com'X 200) registered at the root directory of the USB memory key. This file was created from a previous firmware upgrade.

Appendices

What Is in This Appendix?

The appendix contains the following chapters:

Chapter	Chapter Name	Page
A	Useful Information	137
B	Listing	139
C	IPv4 Address Settings	145

Appendix A
Useful Information

Useful Information to Write Down

MAC Addresses

Item	Information
MAC address Ethernet port 1	
MAC address Ethernet port 2 (Ethernet port 1 MAC address +1)	

Serial Number

Item	Information
Com'X 200 serial number	

Network Configuration

Item	Information
Ethernet port 1	
IP address	
Netmask	
Ethernet port 2 (if the selected configuration is 2 separated networks LAN/WAN)	
IP address	
Netmask	
General network settings	
Gateway	
DNS server	

Proxy Settings

Item	Information
HTTP proxy address	
HTTP proxy port	
HTTPS proxy address	
HTTPS proxy port	

GPRS Settings

Item	Information
APN	
PIN code	

Appendix B
Listing

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
List of Supported Devices	140
List of Certificate Authorities	141

List of Supported Devices

List of Supported Devices

This table shows the list of devices supported by the Com'X 200:

Name	Can Be Connected To
Pulse meters	
EN40p	Com'X 200, SIM10M, Smartlink
iEM2000T-iEM2010	Com'X 200, SIM10M, Smartlink
iEM3110-iEM3210	Com'X 200, SIM10M, Smartlink
ME1ZR, ME3ZR, ME4ZR	Com'X 200, SIM10M, Smartlink
PM9p	Com'X 200, SIM10M, Smartlink
PM200p	Com'X 200, SIM10M, Smartlink
Analog sensors	
RTD (Pt100, Pt1000)	Com'X 200
4–20 mA sensor	Com'X 200
0–10 V sensor	Com'X 200, SIM10M
Ethernet meters	
PM5320, PM5340, PM5341 (single port)	Com'X 200, EGX300, EGX100, PM8ECC
PM5560, PM5561, PM5563 (dual port)	Com'X 200, EGX300, EGX100, PM8ECC
Modbus meters	
EM6400 series	Com'X 200, EGX300, EGX100, PM8ECC
iEM3150-iEM3155	Com'X 200, EGX300, EGX100, PM8ECC
iEM3250-iEM3255	Com'X 200, EGX300, EGX100, PM8ECC
ION6200	Com'X 200, EGX300, EGX100, PM8ECC
ION7300 series	Com'X 200, EGX300, EGX100, PM8ECC
PM9c	Com'X 200, EGX300, EGX100, PM8ECC
PM200 series	Com'X 200, EGX300, EGX100, PM8ECC
PM500 series	Com'X 200, EGX300, EGX100, PM8ECC
PM700 series	Com'X 200, EGX300, EGX100, PM8ECC
PM800 series	Com'X 200, EGX300, EGX100, PM8ECC
PM1200	Com'X 200, EGX300, EGX100, PM8ECC
PM3250-PM3255	Com'X 200, EGX300, EGX100, PM8ECC
PM5110, PM5111, PM5310, PM5330, PM5350	Com'X 200, EGX300, EGX100, PM8ECC
Modbus power factor controllers	
Varlogic NRC12	Com'X 200, EGX300, EGX100, PM8ECC
Modbus circuit breakers	
NSX Micrologic A, Micrologic E	Com'X 200, EGX300, EGX100, PM8ECC
Masterpact Micrologic H, Micrologic P	Com'X 200, EGX300, EGX100, PM8ECC
Modbus I/O block	
Smartlink	Com'X 200, EGX300, EGX100, PM8ECC
SIM10M	Com'X 200, EGX300, EGX100, PM8ECC
Modbus TCP/IP gateways	
EGX100 - EGX300 - PM8ECC	Com'X 200

List of Certificate Authorities

Description

This table describes the list of certificate authorities uploaded in the Com'X 200:

Certificate Name	Owner User	Owner	Locality/State	Country
DigiCert Assured ID Root CA	www.digicert.com	DigiCert Inc	–	US
TC TrustCenter Class 2 CA II	TC TrustCenter Class 2 CA	TC TrustCenter GmbH	–	DE
Thawte Premium Server CA OID.1.2.840.113549.1.9.1=premium-server@thawte.com	Certification Services Division	Thawte Consulting cc	Cape Town/Western Cape	ZA
SwissSign Platinum CA - G2	–	SwissSign AG	–	CH
SwissSign Silver CA - G2	–	SwissSign AG	–	CH
Thawte Server CA OID.1.2.840.113549.1.9.1=server-certs@thawte.com	Certification Services Division	Thawte Consulting cc	Cape Town/Western Cape	ZA
Equifax Secure eBusiness CA-1	–	Equifax Secure Inc.	–	US
UTN-USERFirst-Client Authentication and Email	http://www.usertrust.com	The USERTRUST Network	Salt Lake City/UT	US
Thawte Personal Freemail CA OID.1.2.840.113549.1.9.1=personal-freemail@thawte.com	Certification Services Division	Thawte Consulting	Cape Town/Western Cape	ZA
Entrust Root Certification Authority	www.entrust.net/CPS is incorporated by reference, (c) 2006 Entrust, Inc.	Entrust, Inc.	–	US
UTN-USERFirst-Hardware	http://www.usertrust.com	The USERTRUST Network	Salt Lake City/UT	US
Certum CA	–	Unizeto Sp. z o.o.	–	PL
AddTrust Class 1 CA Root	AddTrust TTP Network	AddTrust AB	–	SE
Entrust Root Certification Authority - G2	See www.entrust.net/legal-terms, (c) 2009 Entrust, Inc."(1)	Entrust, Inc.	–	US
Equifax Secure Certificate Authority	–	Equifax	–	US
QuoVadis Root CA 3	–	QuoVadis Limited	–	BE
QuoVadis Root CA 2	–	QuoVadis Limited	–	BE
DigiCert High Assurance EV Root CA	www.digicert.com	DigiCert Inc	–	US
http://www.valicert.com OID.1.2.840.113549.1.9.1=info@valicert.com	ValiCert Class 1 Policy Validation Authority	ValiCert, Inc.	ValiCert Validation Network	–
Equifax Secure Global eBusiness CA-1	–	Equifax Secure Inc.	–	US
GeoTrust Universal CA	–	GeoTrust Inc.	–	US
thawte Primary Root CA - G3	Certification Services Division, (c) 2008 thawte, Inc.(1)	thawte, Inc.	–	US
–	Class 3 Public Primary Certification Authority	VeriSign, Inc.	–	US
thawte Primary Root CA - G2	(c) 2007 thawte, Inc.(1)	thawte, Inc.	–	US
Deutsche Telekom Root CA 2	T-TeleSec Trust Center	Deutsche Telekom AG	–	DE
UTN-USERFirst-Object	http://www.usertrust.com	The USERTRUST Network	Salt Lake City/UT	US
GeoTrust Primary Certification Authority	–	GeoTrust Inc.	–	US

Certificate Name	Owner User	Owner	Locality/State	Country
Baltimore CyberTrust Code Signing Root	CyberTrust	Baltimore	–	IE
–	Class 1 Public Primary Certification Authority	VeriSign, Inc.	–	US
Baltimore CyberTrust Root	CyberTrust	Baltimore	–	IE
–	Starfield Class 2 Certification Authority	Starfield Technologies, Inc.	–	US
Chambers of Commerce Root	http://www.chambersign.org	AC Camerfirma SA CIF A82743287	–	EU
T-TeleSec GlobalRoot Class 3	T-Systems Trust Center	T-Systems Enterprise Services GmbH	–	DE
VeriSign Class 3 Public Primary Certification Authority - G5	VeriSign Trust Network, (c) 2006 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
T-TeleSec GlobalRoot Class 2	T-Systems Trust Center	T-Systems Enterprise Services GmbH	–	DE
TC TrustCenter Universal CA I	TC TrustCenter Universal CA	TC TrustCenter GmbH	–	DE
VeriSign Class 3 Public Primary Certification Authority - G4	VeriSign Trust Network, (c) 2007 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
VeriSign Class 3 Public Primary Certification Authority - G3	VeriSign Trust Network, (c) 1999 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
Class 3P Primary CA	–	Certplus	–	FR
Certum Trusted Network CA	Certum Certification Authority	Unizeto Technologies S.A.	–	PL
Class 3 Public Primary Certification Authority - G2	VeriSign Trust Network, (c) 1998 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
GlobalSign	GlobalSign Root CA - R3	GlobalSign	–	–
UTN - DATACorp SGC	http://www.usertrust.com	The USERTRUST Network	Salt Lake City/UT	US
–	Security Communication RootCA2	SECOM Trust Systems CO., LTD.	–	JP
GTE CyberTrust Global Root	GTE CyberTrust Solutions, Inc.	GTE Corporation	–	US
–	Security Communication RootCA1	SECOM Trust. net	–	JP
TC TrustCenter Class 4 CA II	TC TrustCenter Class 4 CA	TC TrustCenter GmbH	–	DE
VeriSign Universal Root Certification Authority	VeriSign Trust Network, (c) 2008 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
GlobalSign	GlobalSign Root CA - R2	GlobalSign	–	–
Class 2 Primary CA	–	Certplus	–	FR
DigiCert Global Root CA	www.digicert.com	DigiCert Inc	–	US
GlobalSign Root CA	Root CA	GlobalSign nv-sa	–	BE
thawte Primary Root CA	Certification Services Division, (c) 2006 thawte, Inc.(1)	thawte, Inc.	–	US
GeoTrust Global CA	–	GeoTrust Inc.	–	US
Sonera Class2 CA	–	Sonera	–	FI
Thawte Timestamping CA	Thawte Certification	Thawte	Durban-ville/Western Cape	ZA

Certificate Name	Owner User	Owner	Locality/State	Country
Sonera Class1 CA	–	Sonera	–	FI
QuoVadis Root Certification Authority	Root Certification Authority	QuoVadis Limited	–	BM
http://www.valicert.com OID.1.2.840.113549.1.9.1=info@valicert.com	ValiCert Class 2 Policy Validation Authority	ValiCert, Inc.	–	–
AAA Certificate Services	–	Comodo CA Limited	Salford/Greater Manchester	GB
AddTrust Qualified CA Root	AddTrust TTP Network	AddTrust AB,C	–	SE
KEYNECTIS ROOT CA	ROOT	KEYNECTIS	–	FR
America Online Root Certification Authority 2	–	America Online Inc.	–	US
VeriSign Class 2 Public Primary Certification Authority - G3	VeriSign Trust Network, (c) 1999 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
AddTrust External CA Root	AddTrust External TTP Network	AddTrust AB,C	–	SE
America Online Root Certification Authority 1	–	America Online Inc.	–	US
Class 2 Public Primary Certification Authority - G2	VeriSign Trust Network, (c) 1998 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
GeoTrust Primary Certification Authority - G3	(c) 2008 GeoTrust Inc.(1)	GeoTrust Inc.	–	US
GeoTrust Primary Certification Authority - G2	(c) 2007 GeoTrust Inc.(1)	GeoTrust Inc.	–	US
SwissSign Gold CA - G2	–	SwissSign AG	–	CH
Entrust.net Certification Authority (2048)	www.entrust.net/CPS_2048 incorp. by ref. (limits liab.), (c) 1999 Entrust.net Limited	Entrust.net	–	–
GTE CyberTrust Root 5	GTE CyberTrust Solutions, Inc.	GTE Corporation	–	US
Global Chambersign Root - 2008, OID.2.5.4.5=A82743287	–	AC Camerfirma S.A.	Madrid(2)	EU
Chambers of Commerce Root - 2008, OID.2.5.4.5=A82743287	–	AC Camerfirma S.A.	Madrid(2)	EU
–	Go Daddy Class 2 Certification Authority	The Go Daddy Group, Inc.	–	US
Entrust.net Secure Server Certification Authority	www.entrust.net/CPS incorp. by ref. (limits liab.), (c) 1999 Entrust.net Limited	Entrust.net	–	US
VeriSign Class 1 Public Primary Certification Authority - G3	VeriSign Trust Network, (c) 1999 VeriSign, Inc.(1)	VeriSign, Inc.	–	US
–	Security Communication EV RootCA1	SECOM Trust Systems CO., LTD.	–	JP
Zscaler	Zscaler Inc.	www.zscaler.com	Santa Clara/CA	US
Zscaler Inc. Root CA OID.1.2.840.113549.1.9.1=support@zscaler.com	zscaler.net	Zscaler Inc.	Sunnyvale/California	US

(1) For authorized use only
(2) See current address at www.camerfirma.com/address

Appendix C
IPv4 Address Settings

IPv4 Address Settings

Overview

The Com'X 200 supports 3 different operating modes for assigning the IP address:
- Static IPv4 address setting
- DHCP client
- DHCP server

Static Settings

In the Com'X 200, you can define the IPv4 addresses of the Ethernet interface, subnetwork mask, and default gateway. These settings must be consistent with the network policy of the site. The IT administrator of the site should be contacted to provide this information.

DHCP Client

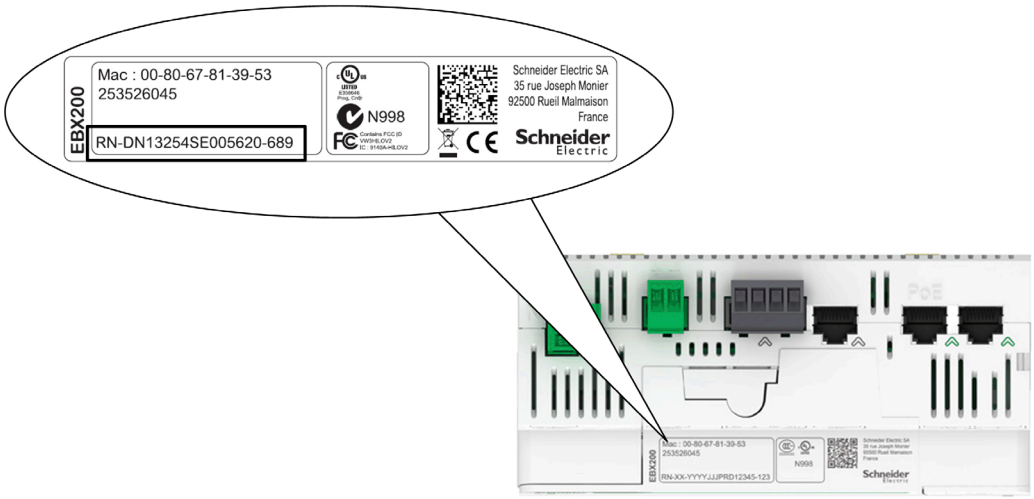
You can configure the Com'X 200 so that the IPv4 address is automatically set by the DHCP server facility. The IT administrator of the site can be asked to configure the DHCP server to assign systematically the same IPv4 address to the Com'X 200.

Follow this procedure to get a fixed IPv4 address with DHCP server:

Step	Action
1	Provide the local IT manager with the MAC address of the Com'X 200 Ethernet port 1. The address can be found on the label in the front face of the device or in the **About** page.
2	Ask the IT manager to provide a fixed IPv4 address so that the same IP address is always assigned to the Com'X 200. The IP address is to be given by the IT manager.
3	Write down the IPv4 address: ● on the label sheet provided with the Com'X 200. This sheet can be stuck on the cover back. ● in the space provided in the **Ethernet configuration** collapsible menu when clicking **Communication settings** main tab and **Network settings** subtab *(see page 54)*.
4	Check that the IT manager has added the Com'X 200 to the DHCP server.

NOTE: It is also possible to log in by entering the IP address provided by the IT manager in the address bar of the browser.

This graphic shows the label of the Com'X 200 front face to find the MAC address:



DHCP Server Over Ethernet Port

You can configure the Com'X 200 so that it assigns IP addresses to the network. In that case, the Com'X 200 configures its Ethernet interface **Eth2** with the IP address 10.25.1.1.

The Com'X 200 also starts an internal DHCP server. It enables you to assign automatically an IP address, consistent with its own address, to any devices connected to the same network and configured to operate as DHCP clients.

IP addresses assigned by the Com'X 200 are in the subnetwork 10.25.1.0/24 (starting from 10.25.1.65, 10.25.1.66, and so on). The Com'X 200 has no routing capabilities. As a result, no **Default Gateway** nor **Domain Name Server** are sent by this DHCP server.

The IT administrator of the site should be contacted to confirm that the network to which the **Eth2** interface of the Com'X 200 is connected:

- is separated from the rest of the site network installation.
- does not perturb another DHCP server.

DHCP Server Over Wi-Fi

When a Wi-Fi key is connected to the Com'X 200, you can configure the Com'X 200 so that it creates a Wi-Fi access point.

In that case, the Com'X 200 creates a Wi-Fi network with an SSID using the same name as the Com'X 200 but without any access restriction (no WEP nor WPA authentication) in this mode. The Com'X 200 configures its Wi-Fi interface with the IP address 10.25.2.1.

The Com'X 200 also starts an internal DHCP server on this Wi-Fi interface. It enables you to assign automatically an IP address, consistent with its own address, to any Wi-Fi devices that are configured to operate as DHCP clients.

IP addresses assigned by the Com'X 200 are in the subnetwork 10.25.2.0/24 (starting from 10.25.2.65, 10.25.2.66, and so on). The Com'X 200 has no routing capabilities. As a result, no **Default Gateway** nor **Domain Name Server** are sent by this DHCP server.

Remote Access with Windows Operating Systems

You can access remotely to the Com'X 200 by using an IP address under Windows XP. The IT administrator should be requested to provide a fixed IP address to assign systematically the same IP address to the Com'X 200.

With Windows 8, Windows 7, or Vista, the Com'X 200 is accessible under Windows Explorer, from the network section *(see page 18)*, when connecting the PC to the same LAN. It is not necessary to know the IP address.

Glossary

A

analog input

Converts received voltage or current levels into numerical values. You can store and process these values within the controller.

APN

Access Point Name is the name of a gateway between a GPRS mobile network and another computer network, frequently the public Internet.

C

client

Computer process requesting service from other computer processes

commodity

Type of energy: WAGES are the commodities used for the Com'X 200.

D

default gateway

IP address of the network or host to which all packets addressed to an unknown network or host are sent. The default gateway is typically a router or other device.

DHCP

Dynamic Host Configuration Protocol is a TCP/IP protocol that allows network devices (DHCP clients) to obtain their IP addresses from a DHCP server through a request to the server.

DNS

Domain Name System is the naming system for computers and devices connected to a LAN or the Internet.

F

firmware

Represents the BIOS, data parameters, and programming instructions that constitute the operating system on a controller. It is stored in non-volatile memory within the controller.

frame

Group of bits that form a discrete block of information. Frames contain network control information or data. The size and composition of a frame is determined by the network technology being used.

FTP

File Transfer Protocol is a standard network protocol built on a client-server architecture to exchange and manipulate files over TCP/IP based networks regardless of their size.

G

gateway

Device that connects networks with dissimilar network architectures and operates at the application layer of the OSI model. It converts 1 protocol or format to another.

H

host

Addressable device (or node) on a communication network

I

Internet proxy

Gateway for all the external HTTP or HTTPS traffic (web access) that checks if the requested web access is authorized or not. It also keeps in memory a copy of the data returned by the web server requested. This mechanism is called caching and avoids requesting twice the same HTML pages if the data has not changed.

IP address

Internet Protocol address is a 32-bit address assigned to hosts using TCP/IP.

M

MAC address

Media Access Control address is a 48-bit number, unique on a network, that is programmed into each network card or device when it is manufactured.

metadata

Information related to a meter or sensor (location, commodity, energy usage, or monitored area) to describe the use of the device

meter

Device that measures and quantifies a physical value

Modbus

Protocol that allows communications between many devices connected to the same network

Modbus serial line

Implementation of the protocol over an RS-232 or RS-485 serial connection

P

platform

Includes a hardware architecture and a software framework where the combination allows the software to run.

Pt100/Pt1000

Platinum (Pt) resistance thermometers, also referred to as Resistance Temperature Detectors (RTD), are sensors used to measure temperature by correlating electrical resistance with temperature. As the temperature changes, the resistance to an electrical current passing through them predictably changes likewise. They are characterized by their nominal resistance R0 at a temperature of 0 °C: Pt100 (R0 = 100 Ω) and Pt1000 (R0 = 1 kΩ).

R

RTD

Resistance Temperature Detectors are sensors used to measure temperature by correlating electrical resistance with temperature. As the temperature changes, the resistance to an electrical current passing through them predictably changes likewise.

RTU

Remote Terminal Unit is a device that interfaces with objects in the physical world to a distributed control system or SCADA system. It transmits telemetry data to the system and/or alters the state of connected objects based on control messages received from the system.

S

slave ID

Number assigned to a slave device normally in the range of 1 to 247 in a Modbus network. When the Modbus master requests data, the first byte it sends is the slave ID. Each slave knows after the first byte whether to ignore the message or not. Also known as slave address or unit ID.

SSID

Service Set Identifier is a case sensitive, 32 alphanumeric character unique identifier of a wireless local area network (WLAN) that acts as a password. All wireless devices on a WLAN must use the same SSID to communicate with each other.

subnetwork

Physical or logical network within an IP network, which shares a network address with other portions of the network

subnetwork mask

Used to indicate which bits in an IP address identify a subnet

switched network

Network device that connects 2 or more separate network segments and allows traffic to be passed between them. A switch determines whether a frame should be blocked or transmitted based on its destination address.

T

TCP/IP

Connection-based transport layer protocol that provides full-duplex data transmission. It consists of the Transmission Control Protocol and the Internet Protocol. It is a suite of communication protocols on which the Internet is based.

time of use

Periods that are different during a day: on, peak, super peak, off, and so on

U

utility

Entity distributing the energy source (WAGES)

W

WAGES

Water, Air, Gas, Electricity, Steam are the commodities used for the Com'X 200.

Index

A

analog inputs
- adding, *69*
- deleting, *70*
- disconnecting, *69*
- modifying, *69*
- reconnecting, *70*
- replacing, *70*
- troubleshooting, *130*

analog sensors
- measurements table, *112*
- monitored area, *111*

B

backup configuration
- duplicate for another device, *121*

C

contactor
- measurement properties, *110*
- measurement table, *110*

D

digital inputs
- adding, *69*
- deleting, *70*
- disconnecting, *69*
- modifying, *69*
- reconnecting, *70*
- replacing, *70*
- troubleshooting, *130*

E

Energy Online
- description, *12*
- exported data, *71*
- publication, *42*, *43*, *47*
- site identification, *40*

Energy Operation
- description, *12*
- exported data, *71*
- publication, *43*, *47*
- site identification, *40*

Ethernet
- IP address, *18*, *146*
- troubleshooting, *132*

F

FTP, *44*
- platform compatibility, *44*

G

GPRS
- EBXA-GPRS, *59*
- EBXA-GPRS-SIM card, *58*
- settings, *54*
- troubleshooting, *132*

H

HTTP, *45*
- platform compatibility, *44*
- settings, *60*

HTTPS, *45*
- platform compatibility, *44*
- settings, *60*

I

impulse relay
- measurement properties, *110*
- measurement table, *110*

IP address conflict, *126*

L

logging
- capacity, *42*
- intervals, *42*
- maintenance, *116*
- start/stop, *95*

login
- multiple sessions, *22*

M

main meters
- measure properties, *104*
- signal properties, *104*

Modbus serial devices
- adding, *69*, *85*
- deleting, *70*
- disconnecting, *69*
- discovering, *83*
- modifying, *69*
- reconnecting, *70*
- replacing, *70*
- troubleshooting, *131*

P

password
- factory setting, *18*
- first login, *21*
- login, *22*
- login session timeout, *22*
- resetting, *125*

Publication
CSV Format, *47*
FTP, *44*
HTTP, *45*
HTTPS, *45*
Publication ID, *47*
RSP Connection, *47*
SMTP, *46*
Transfer Protocols, *44*
pulse meters
measure properties, *107*
measurement properties, *77*
measurements table, *77*, *105*, *108*

R

Remote Service Platform
configuration restoring, *124*
configuration saving, *120*
connection, *48*
date/time settings, *41*
description, *12*
publication, *43*
resistance temperature detectors (RTD)
measurement properties, *80*
measurement table, *80*

S

SIM card, *12*, *58*, *59*
SMTP, *46*
platform compatibility, *44*
standard main meters
connecting, *106*
switch mode, *54*, *55*

U

upstream/downstream mode, *56*

W

web browser
for PC, *16*
for tablet, *17*
Wi-Fi
IP address, *19*, *146*
troubleshooting, *132*

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As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

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